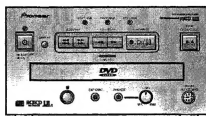


Service Manual

Pioneer



ORDER NO.
RRV2257

DVD PLAYER

DVD-V7400 DVD-V7300D

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.	Regional restriction codes(Region NO.)
	DVD-V7400	DVD-V7300D			
KU/CA	O	-	AC120V		1
YV/RB	-	O	AC-220 - 240V	Automatic select	2

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PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
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T - ZZY JAN. 2000

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.



WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65



NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

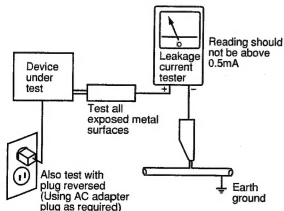
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

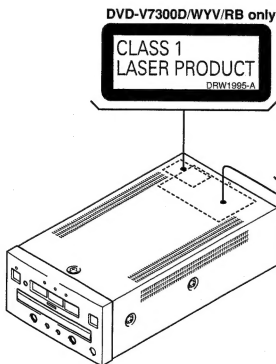
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS
LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS
SHOULD BE DONE BY A SPECIALLY
INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 655 nm
FOR CD : MAXIMUM OUTPUT POWER : 5mW
WAVELENGTH : 785 nm

LABEL CHECK



DVD-V7400/KU/CA only

<p>Pioneer DVD-V7400</p> <p>FC</p> <p>Tested To Comply With FCC Standards FOR HOME OR OFFICE USE</p>	<p>THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE OPERATION.</p>
<p>CERTIFICATION THIS PRODUCT COMPLIES WITH CANIS RULES AT CNE, EUROPEAN JI, PART C-10 AT DATE OF MANUFACTURE.</p>	<p>This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.</p>
<p>Manufactured under license from Dolby Laboratories, "Dolby", and the DTS/CD symbol are trademarks of Dolby Laboratories, Inc. and DTS Licensing, Inc. ©1995-1999 Dolby Laboratories, Inc. All rights reserved.</p>	<p>Appareils Classés de U.S. Patent Nos. 4,872,825, 4,872,826, 4,872,827, and 4,872,828. Licensed for limited viewing uses only.</p>

DRW1996

Additional Laser Caution

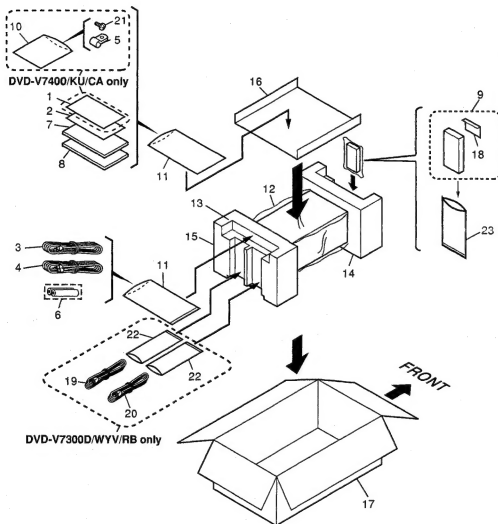
- Inside detection switch (S201 on the SMEB assy) and loading-status detection switch (S301 on the LOSB assy) are detected by the microprocessor (IC11 in the DVD assy).
* To permit the laser diode to oscillate, it is required to set the inside detection switch for the inside position (S201 : ON) and to set the loading-status detection switch for the clamp position (the center terminal of S301 is shorted to +5V). The 655 nm laser diode for DVD oscillation will continue if pin 19 of IC1 is shorted to +5V (fault condition) in the DVD assy.
The 785 nm laser diode for CD oscillates if pin 20 of IC1 is shorted to +5V in the DVD assy.
In the test mode *, the laser diode oscillates when microprocessor detects a PLAY signal, or when the PLAY key is pressed (S159 ON in the KEYB assy), with the above requirements satisfied.
- When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

* : See page 50.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 ● The Δ mark found on some component parts indicates the importance of the safety factor of the part.
 Therefore, when replacing, be sure to use parts of identical designation.
 ● Screws adjacent to \blacktriangledown mark on the product are used for disassembly.

2.1 PACKING



(1) PACKING PARTS LIST

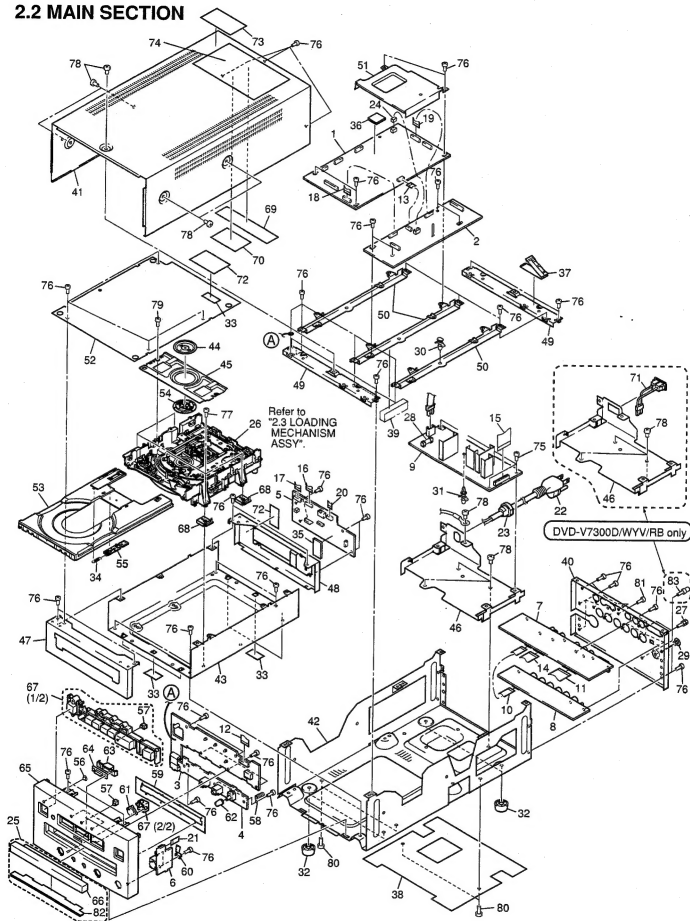
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	Warranty Card	See Contrast table (2)		11	Polyethylene Bag (230×340×0.03)	Z21-038
	2	Bar Code Sheet	VR11116		12	Sheet	RHX1006
	3	Audio Cord	VDE1033		13	Cord Bag	See Contrast table (2)
	4	Video Cord	VDE1048	NSP	14	Pad F	VHA1212
	5	Nylon Clamp	VEC1988		15	Pad R	VHA1213
NSP	6	Dry Cell Battery (LR6, AA)	VEM-013		16	Partition Plate	VHB1062
	7	Operating Instructions (Basic Operations) (English)	See Contrast table (2)		17	Packing Case	See Contrast table (2)
	8	Operating Instructions (Applied Operations) (English)	See Contrast table (2)		18	Battery Cover	VNK4403
	9	Remote Control Unit	DXX2448	△	19	AC Power Cord	See Contrast table (2)
NSP	10	Polyethylene Bag (50×70×0.03)	See Contrast table (2)	△	20	AC Power Cord	See Contrast table (2)
					21	Screw	See Contrast table (2)
					22	Cord Bag	See Contrast table (2)
					23	Aircap	VHL1048

(2) CONTRAST TABLE

DVD-V7400/KU/CA and DVD-V7300D/WYV/RB are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			DVD-V7400/ KU/CA	DVD-V7300D/ WYV/RB	
NSP	1	Warranty Card	ARY7031	Not used	
	5	Nylon Clamp	VEC1988	Not used	
	7	Operating Instructions (English) (Basic Operations)	DRB1264	Not used	
	8	Operating Instructions (English) (Applied Operations)	Not used	DRB1268	
NSP	10	Polyethylene Bag (50×70×0.03)	Z21-002	Not used	
NSP	13	Cord Bag	VEG-012	Not used	
	17	Packing Case	DHG1958	DHG1963	
△	19	AC Power Cord	Not used	ADG1127	
△	20	AC Power Cord	Not used	ADG7004	
	21	Screw	AMZ30P060FZK	Not used	
	22	Cord Bag	Not used	OHL1007	

2.2 MAIN SECTION



● MAIN SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	DVDM Assy	See Contrast table (2)		36	Radiation Sheet (SILICON)	DEB1444
	2	SUBB Assy	See Contrast table (2)		37	Clamp	DEC2383
	3	KEYB Assy	DWG1529		38	Sheet	VEC1999
	4	HPIR Assy	DWG1530		39	Cushion	DEB1199
	5	SPDB Assy	DWG1532		40	Rear Panel	See Contrast table (2)
	6	PS2B Assy	DWG1531		41	Bonnet	VNA1931
	7	JACB Assy	See Contrast table (2)	NSP	42	Main Chassis	VNB1037
	8	EXTB Assy	DWV1185		43	Sub Chassis	VNB1038
△	9	SYPS Assy	DWR1338		44	Clamper Plate	VNE2068
	10	Flexible Cable (10P) (JACB CN653 - EXTB CN751)	VDA1673		45	Bridge	VNE2069
	11	Flexible Cable (26P) (SUBB CN102 - JACB CN602)	DDD1168		46	SYPS Stay	See Contrast table (2)
	12	Flexible Cable (17P) (SUBB CN101 - KEYB CN151)	DDD1169		47	Shield Stay F	VNE2129
	13	Flexible Cable (7P) (DVDM CN106 - SUBB CN201)	DDD1174		48	Shield Stay R	VNE2130
	14	Flexible Cable (15P) (DVDM CN901 - JACB CN601)	DDD1167		49	Center Stay	VNE2131
	15	Flexible Cable (26P) (DVDM CN110 - SYPS CN201)	DDD1173		50	PCB Stay	DNE1384
	16	Flexible Cable (24P) (DVDM CN120 - SPDB CN258)	DDD1165		51	Heat Sink	DNE1389
	17	Flexible Cable (12P) (DVDM CN1030 - SPDB CN252)	DDD1164		52	Cover	VNE2147
	18	Flexible Cable (15P) (DVDM CN602 - SUBB CN103)	DDD1162		53	Tray	VNL1731
	19	Flexible Cable (17P) (DVDM CN905 - SUBB CN302)	DDD1166		54	Clamper	VNL1738
	20	Flexible Cable (7P) (DVDM CN252 - SPDB CN251)	DDD1163		55	Tray Stopper	VNL1739
	21	Flexible Cable (6P) (KEYB CN153 - PS2B CN801)	VDA1670		56	Lens	PNW1257
△	22	AC Power Cord (KU)	See Contrast table (2)		57	LED Lens	PNW2019
△	23	AC Cord Stopper	See Contrast table (2)		58	Earth Spring	VBH1301
	24	Housing Assy (2P) (DVDM CN180 - SUBB CN301)	DKP3515		59	Screen	VEC1977
	25	DVD Door Assy-S	DXX2466		60	Earth Plate	VNE2027
NSP	26	Loading Mechanism Assy	VWT1171		61	IR Window	VNK2246
	27	Bolt	DBA1078		62	Volume Knob	VNK3124
△	28	Fuse (F101: 2A)	VEK1049		63	Illumination Holder	VNK3917
NSP	29	Nylon Rivet	DEC1644		64	Illumination Lens	VNK4168
	30	Card Spacer	DEC1772		65	Front Panel	See Contrast table (2)
NSP	31	PCB Holder	PNW2100		66	DVD Door	VNK4224
	32	Foot Assy	PKA1201		67	Operation Key Assy	VXA2360
	33	Tape (G)	REH1010		68	Loading Base Spacer	DNK3755
	34	Tray Stopper Spring	VBH1277	NSP	69	65 Label	See Contrast table (2)
	35	Radiation Sheet	VEB1279		70	Label	VRW-348
				△	71	AC Inlet Assy	See Contrast table (2)
					72	Caution Label	See Contrast table (2)
				NSP	73	Caution Label	See Contrast table (2)
					74	Label	See Contrast table (2)
					75	Screw	BCZ30P080FZK
					76	Screw	BBZ30P080FMC
					77	Screw	BBZ30P100FMC
					78	Screw	BCZ40P060FZK
					79	Screw	BPZ26P080FZK
					80	Screw	PMZ40P080FMC
					81	Screw	AMZ30P060FZK
					82	Door Filter	DEC2382
					83	GND Terminal	See Contrast table (2)

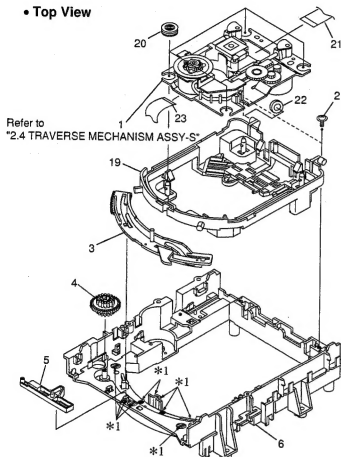
(2) CONTRAST TABLE

DVD-V7400/KU/CA and DVD-V7300D/WYV/RB are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			DVD-V7400/ KU/CA	DVD-V7300D/ WYV/RB	
	1	DVDM ASSY	DWS1299	DWS1305	
	2	SUBB ASSY	DWG1528	DWG1527	
	7	JACB ASSY	DWV1184	DWV1189	
△	22	AC Power Cord (KU)	VDG1073	Not used	
△	23	AC Cord Stopper	VEC-201	Not used	
	40	Rear Panel	DNA1255	DNA1257	
	46	SYPS Stay	DNE1386	DNE1385	
	65	Front Panel	DNK3749	DNK3753	
	69	65 Label	ARW7050	Not used	
△	71	AC Inlet Assy	Not used	VKP2116	
	72	Caution Label	Not used	VRW1699	
	73	Caution Label	Not used	DRW1995	
NSP	74	Label	DRW1986	Not used	
	83	GND Terminal	Not used	DKE-102	

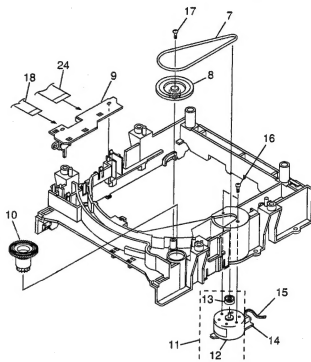
2.3 LOADING MECHANISM ASSY

• Top View



*1: Froil (PN-397)

• Bottom View



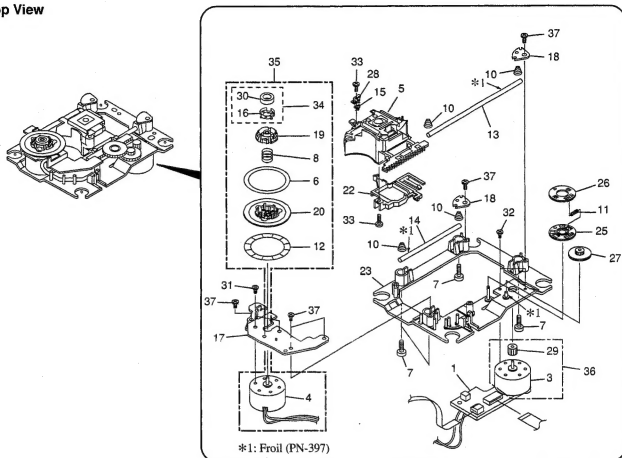
• LOADING MECHANISM ASSY PARTS LIST

Mark	No.	Description	Part No.
	1	Traverse Mechanism Assy-S	VXX2688
	2	Screw	DBA1006
	3	Drive Cam	VNL1736
	4	Drive Gear	VNL1735
	5	Lock Plate	VNL1820
	6	Loading Base	VNL1844
	7	Belt	VEB1260
NSP	8	Gear Pulley	VNL1733
	9	LOSB Assy	VWG1885
	10	Loading Gear	VNL1734
	11	Loading Motor Assy	VXX2505
	12	DC Motor / 0.3W	PXM1027
	13	Motor Pulley	PNW1634
NSP	14	LOMB Assy	VWG1886
	15	Connector Assy (LOMB CN401 ↔ LOSB CN303)	VKP2198

Mark	No.	Description	Part No.
	16	Screw	VBA1055
	17	Screw	Z39-019
	18	Flexible Cable (08P) (LOSB CN302 ↔ SMEB CN202)	VDA1698
	19	Float Base	VNL1867
	20	Floating Rubber	VEB1286
	21	Flexible Cable (24P) (Pickup Assy ↔ SPDB CN257)	VDA1701
	22	Cushion	VEB1312
	23	Flexible Cable (11P) (SPINDLE MOTOR Assy ↔ SPDB CN255)	DDD1161
	24	Flexible Cable (12P) (LOSB CN301 ↔ SPDB CN253)	DDD1172

2.4 TRAVERSE MECHANISM ASSY-S

• Top View

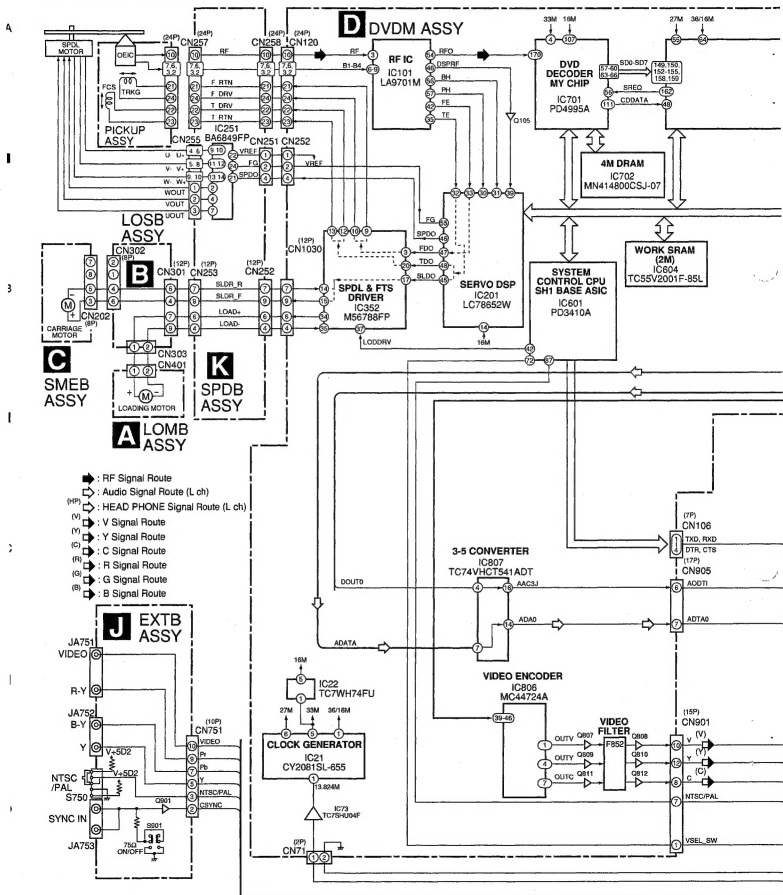


● TRAVERSE MECHANISM ASSY-S PARTS LIST

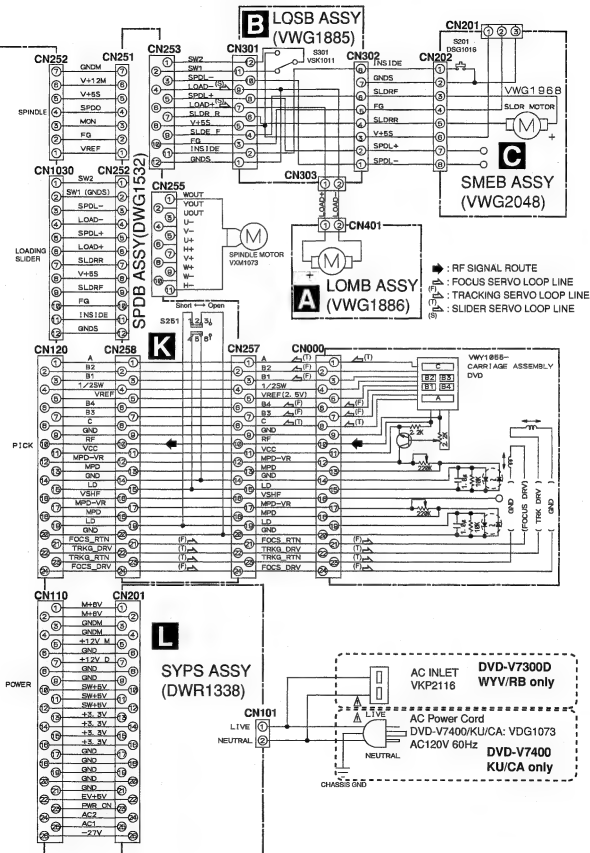
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	SMEB Assy	VWG2048	21	*****		
NSP	2	*****		22	FFC Holder	VNL1802	
NSP	3	Motor	VXM1079	23	Mechanism Base	VNL1806	
NSP	4	Motor	VXM1073	24	*****		
Δ NSP	5	Pickup Assy	VWY1055	25	Gear A	VNL1808	
	6	Table Sheet	DEC2040	26	Gear B	VNL1809	
	7	Screw	VBA1058	27	Gear C	VNL1810	
	8	Centering Spring	VBH1278	28	Slider	VNL1811	
	9	*****		29	Gear D	VNL1814	
	10	Skew Spring	VBH1303	NSP	30	Magnet	VYM1024
	11	Gear Spring	VBH1308	31	Screw	JGZ20P030FMC	
NSP	12	Reflected Sheet	VEC1959	32	Screw	JGZ17P028FMC	
	13	Guide Bar	VLL1504	33	Screw	VBA1051	
	14	Sub-guide Bar	VLL1505	34	Magnet Holder Assy	VXX2507	
	15	Hold Spring	VNC1017	35	Spindle Motor Assy	VXX2580	
NSP	16	Magnet Holder	VNE2070	36	Carriage Motor Assy	VXX2650	
NSP	17	Motor Base	VNE2218	NSP	37	Screw	PBA1069
NSP	18	Cover	VNE2155				
NSP	19	Centering Ring	VNL1746				
NSP	20	Disc Table	VNL1747				

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

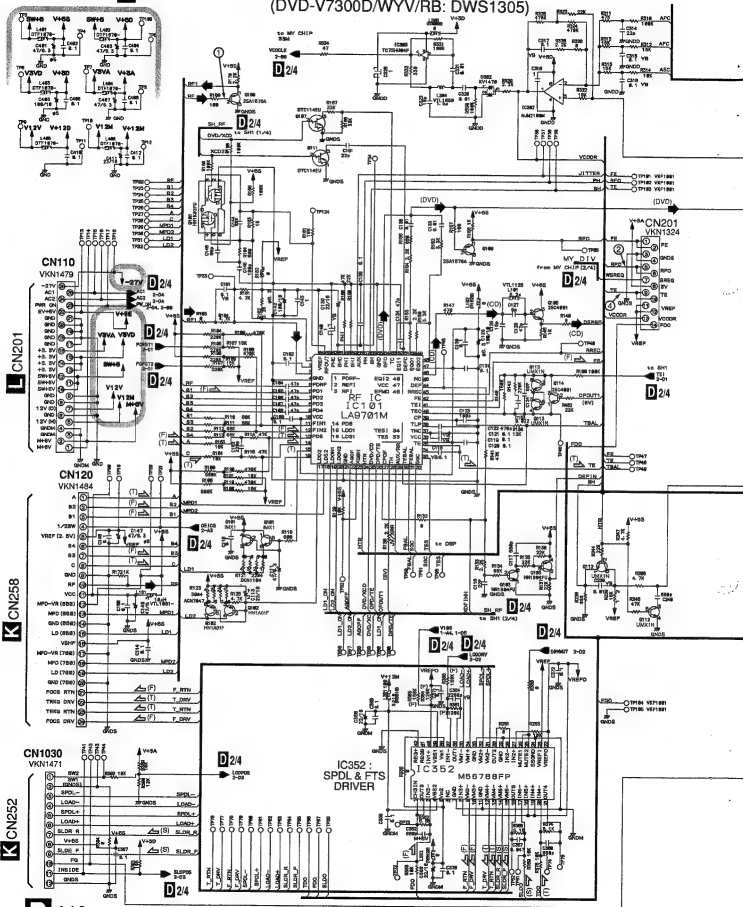
3.1 BLOCK DIAGRAM






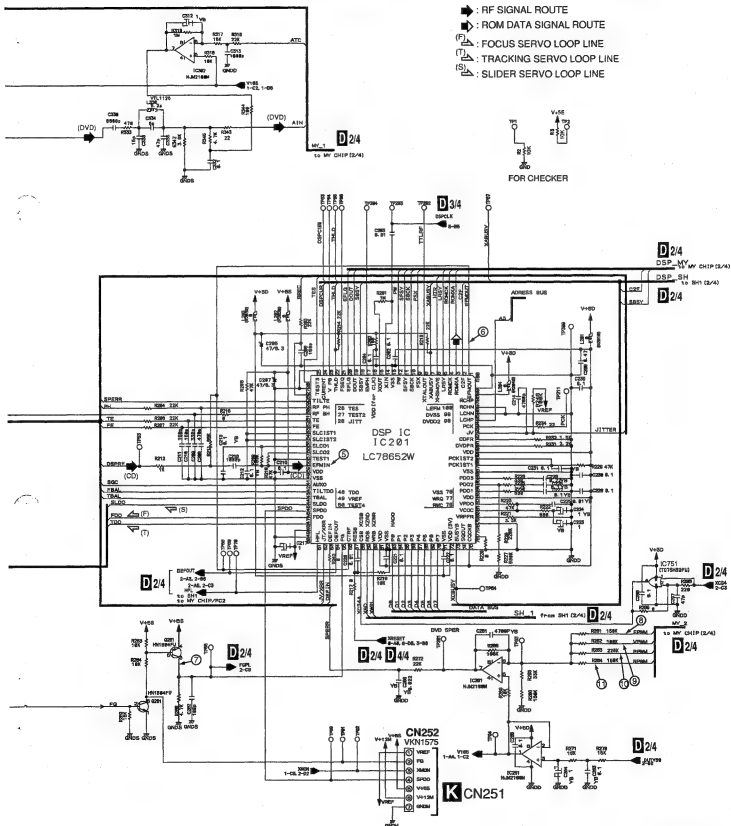


D 1/4 DVDM ASSY (DVD-V7400/KU/CA: DWS1299)
(DVD-V7300D/WYV/RB: DWS1305)



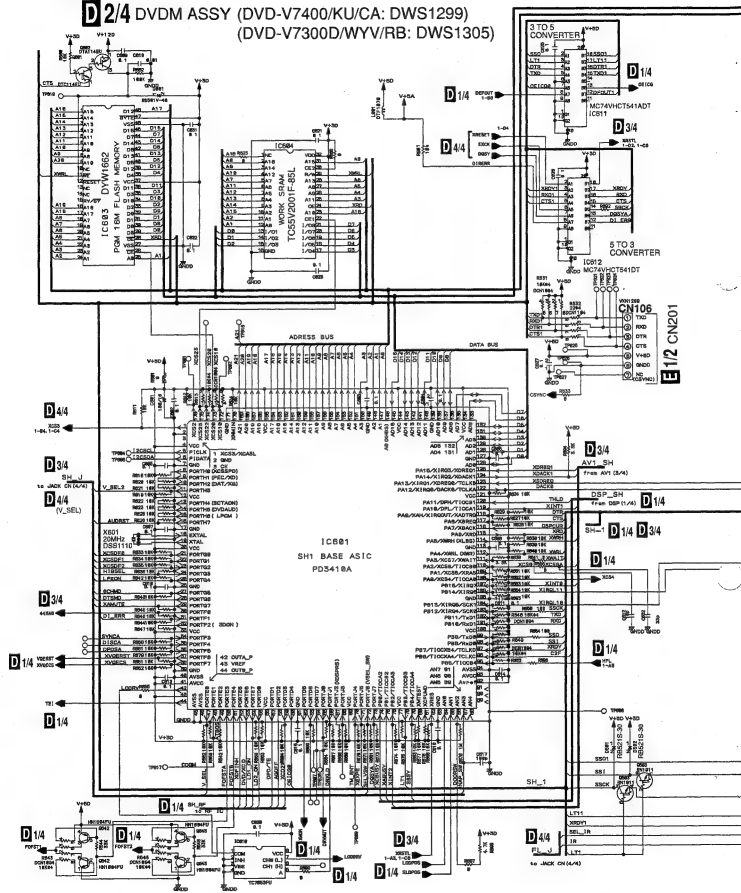
D^{1/4}

 : The power supply is shown with the marked box.



3.4 DVDM ASSY (2/4)

D2/4 DVDM ASSY (DVD-V7400/KU/CA: DWS1299)
(DVD-V7300D/MYV/RB: DWS1305)

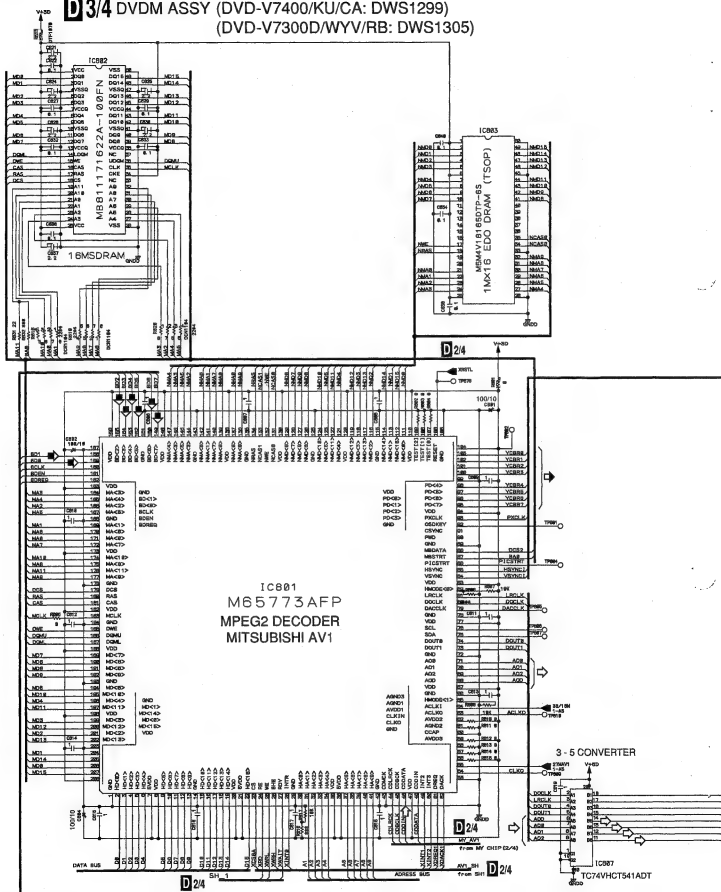


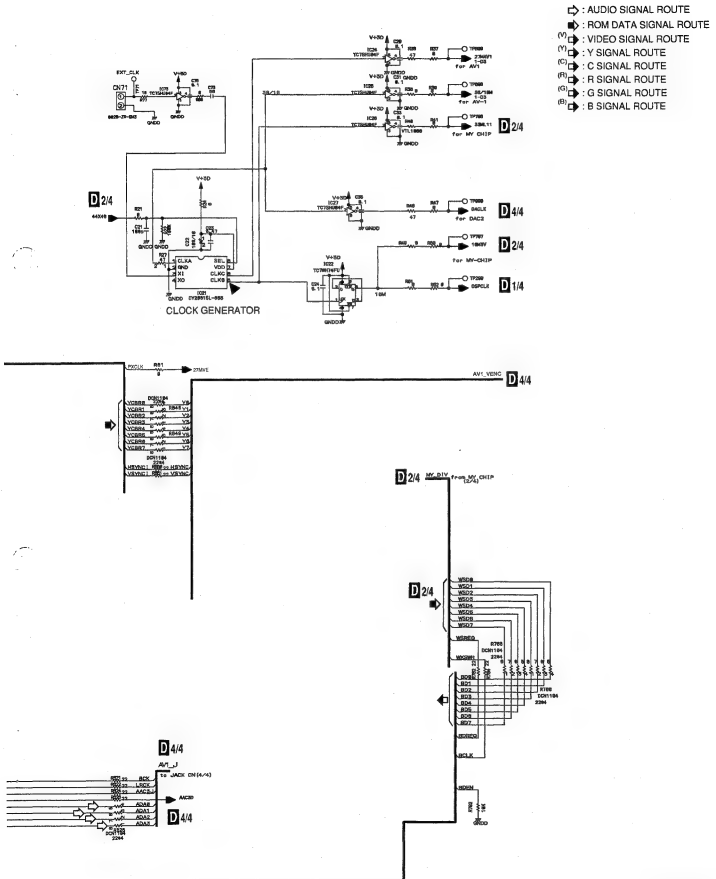
➡ : AUDIO SIGNAL ROUTE
 ■➡ : ROM DATA SIGNAL ROUTE



3.5 DVDM ASSY (3/4)

D3/4 DVDM ASSY (DVD-V7400/KU/CA: DWS1299)
(DVD-V7300D/WYV/RB: DWS1305)



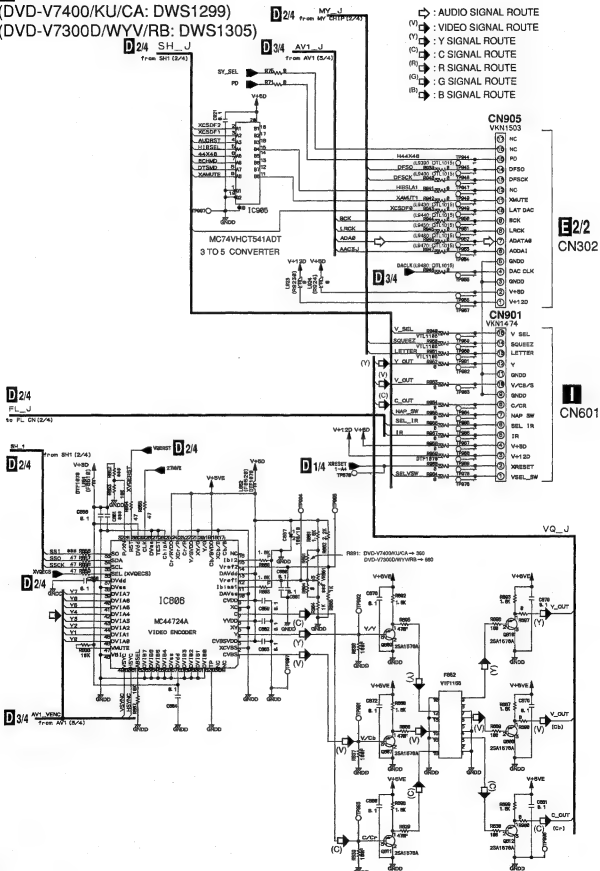


DVD-V7400, DVD-V7300D

3.6 DVDM ASSY (4/4)

D4/4 DVDM ASSY

(DVD-V7400/KU/CA: DWS1299)
(DVD-V7300D/WYV/RB: DWS1305)

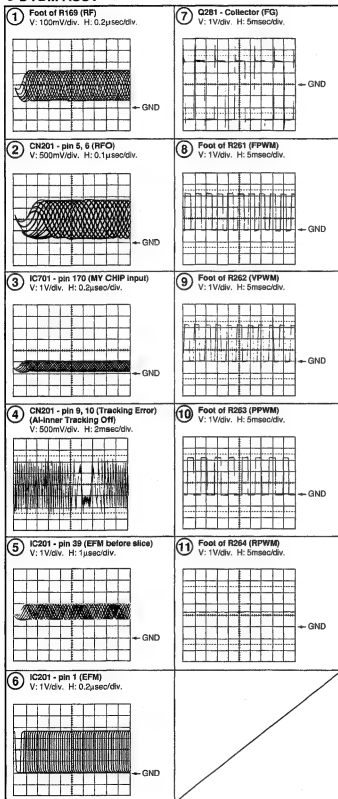


WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

Measurement condition : No. 1 to 4 and 6 to 11 : Disc MA1, Title 1-chp 1
 No. 5 : CD, ABEX-784 Track 1
 No. 12 to 14 : MJK1, Title 1-chp 4 or T2-1
 No. 15 to 17 : MJK1, Title 1-chp 5 or T2-19
 No. 18 to 20 : T2-19, Color-bar (WY and WV Types only)

● DVDM ASSY



DVD-V7400, DVD-V7300D

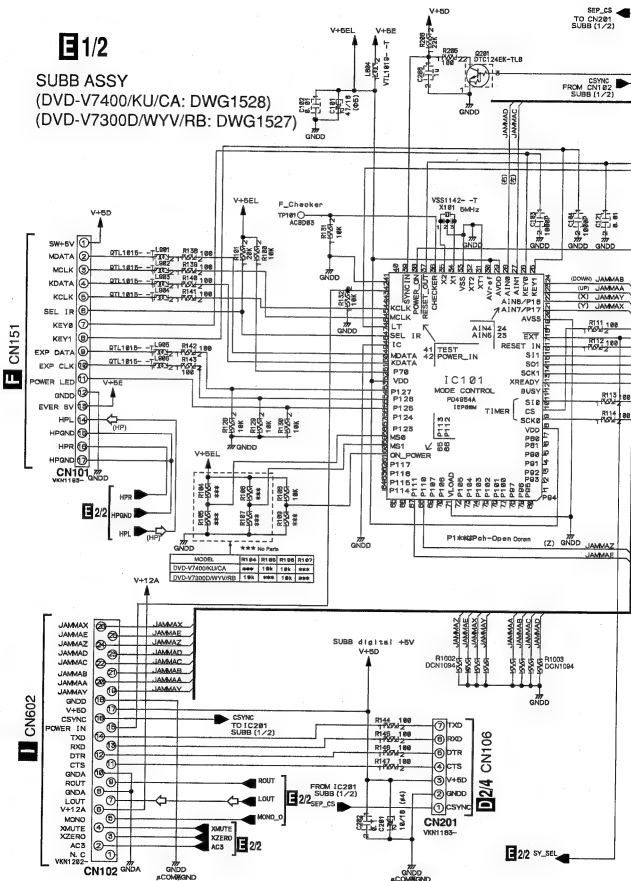
3.7 SUBB ASSY (1/2)

E1/2

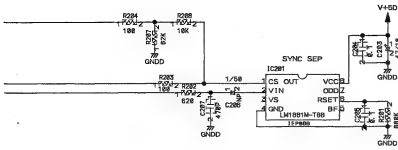
SUBB ASSY

(DVD-V7400/KU/CA: DWG1528)

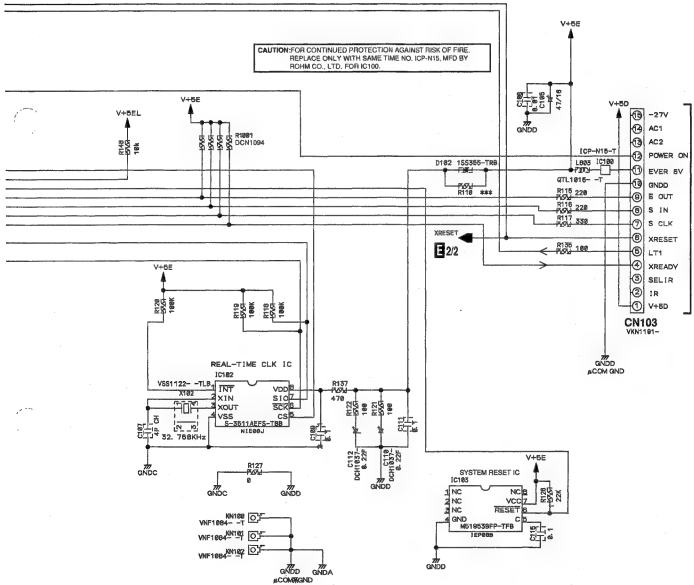
(DVD-V7300D/WYV/RB: DWG1527)



E1/2



◇ : AUDIO SIGNAL ROUTE
 (HP) : H.PHONE SIGNAL ROUTE



D2/4 CN602

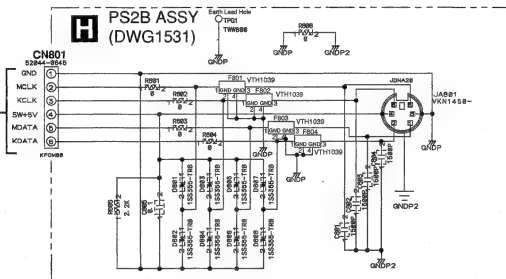
CN103

WMT191-



A





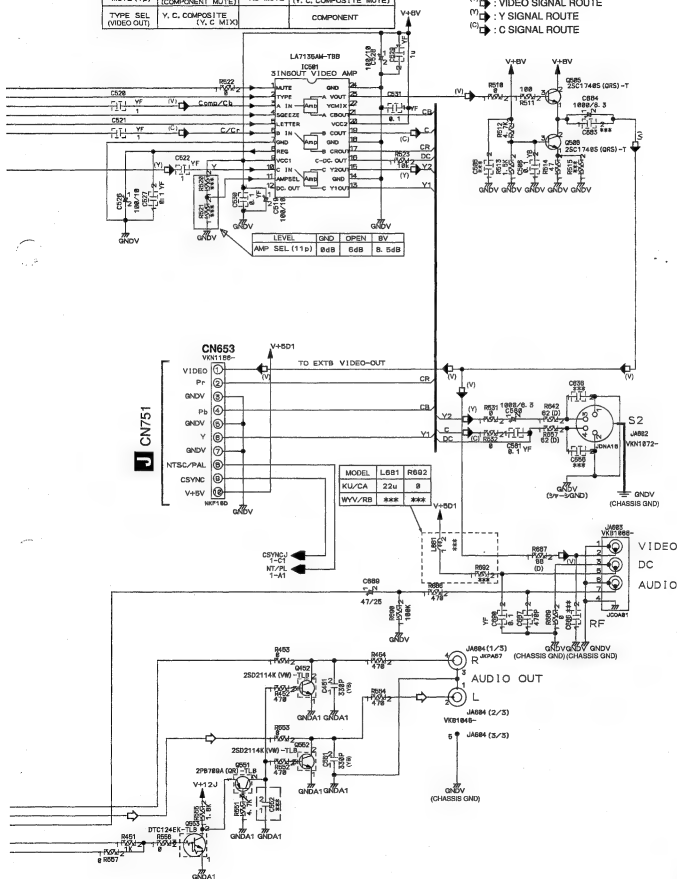
1

(DVD-V7300D/WYV/RB; DWV1189)



LEVEL	GND	OPEN	5V
MUTE (1p)	15, 17, 21 MUTE (COMPONENT MUTE)	NO MUTE	15, 10, 25 MUTE (Y, C, COMPOSITE MUTE)
TYPE SEL (VIDEO OUT)	Y, C, COMPOSITE (Y, C MIX)		COMPONENT

(A) : AUDIO SIGNAL ROUTE
(V) : VIDEO SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE



A



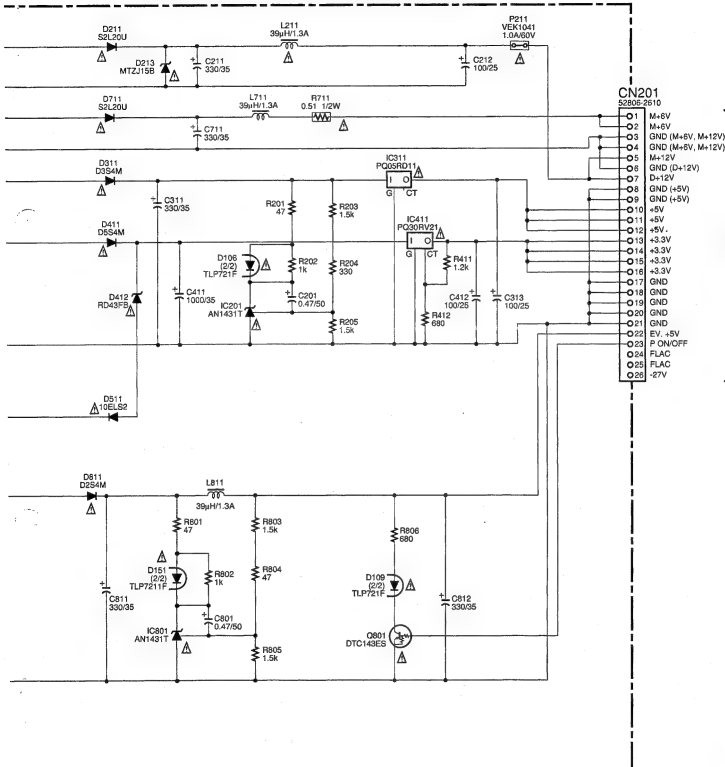
A

- In case of repairing, use the described parts only to prevent an accident.
- Please write the red ✓ mark on the board when the primary section of POWER SUPPLY (SYPS) Assy is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.



• NOTE FOR FUSE REPLACEMENT











CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE WITH SAME TYPE AND RATINGS ONLY.



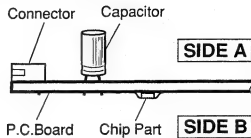
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

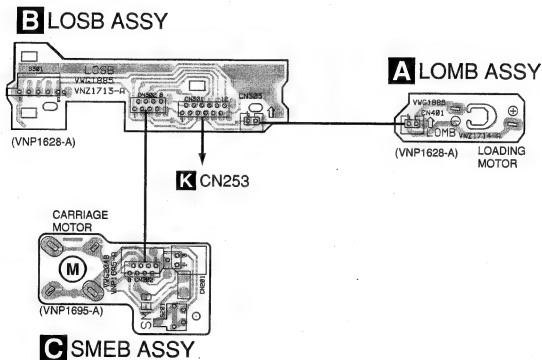
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 LOMB, LOSB and SMEB ASSYS



SIDE A

4.2 DVDM ASSY

• This PCB is a four-layered board.

D DVDM ASSY

E CN302

I CN601

E

CN301

K

CN258

K

CN252

K

CN251

L CN201

E CN103

SIDE A

IC23
IC26
IC31 Q810 Q808
Q812
IC25
IC54

Q809 Q807 Q811
IC21
IC801
IC807
IC22
VR851
VC21
IC806
IC903

E

CN201

IC281
IC303
IC302 IC702

IC610
Q111
Q112 Q107

IC101 IC601

Q102
IC761
Q281

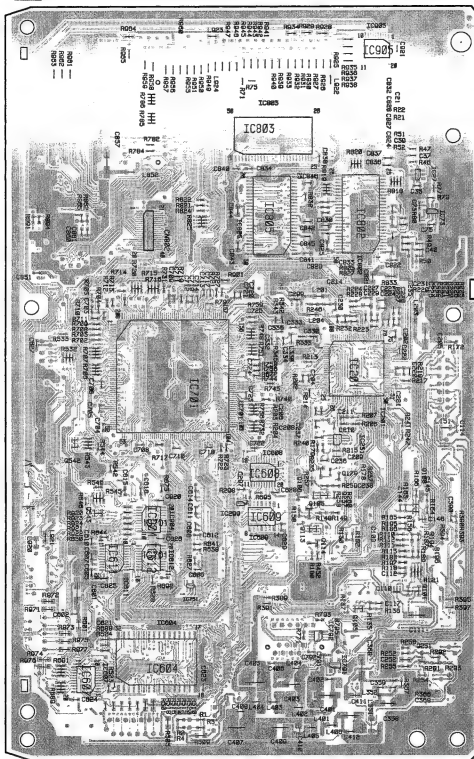
IC352 IC603
IC606
Q601
Q602

(VNP1706-B)

D

• This PCB is a four-layer board.

D DVDM ASSY



(VNP1706-B)

SIDE B

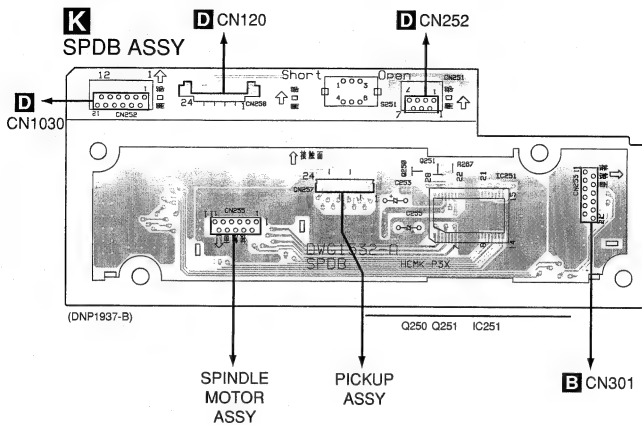


(DNP1937-B)

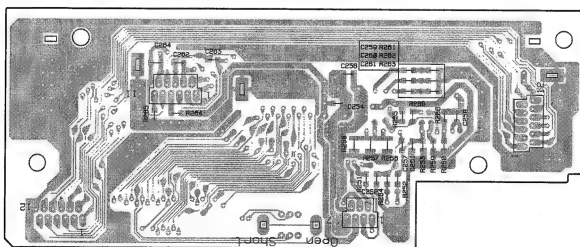
IC302

SIDE B

4.4 SPDB ASSY



K SPDB ASSY



SIDE A

A

3

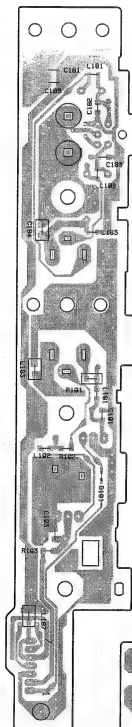
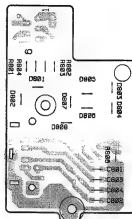
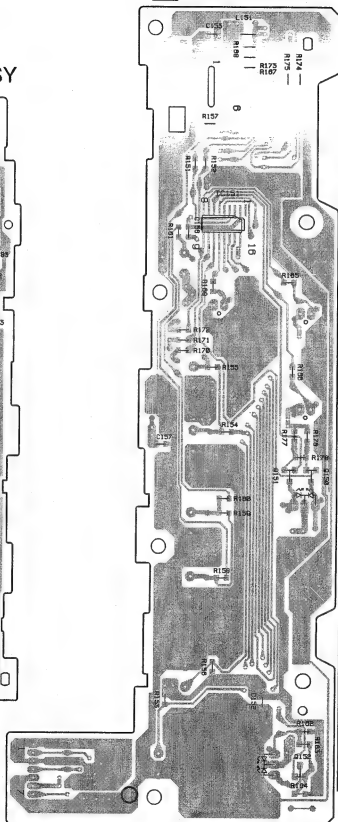
2



1

1

G
HPIR ASSY

**F** KEYB ASSY

IC151
H PS2B ASSY

SIDE B

Q150 Q151

Q150

(DNP1937-B)

A

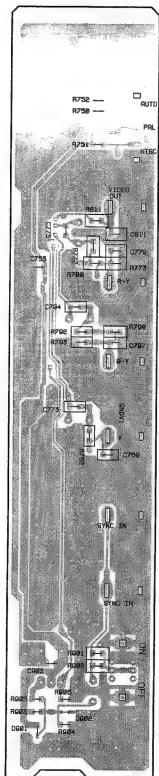
1

3



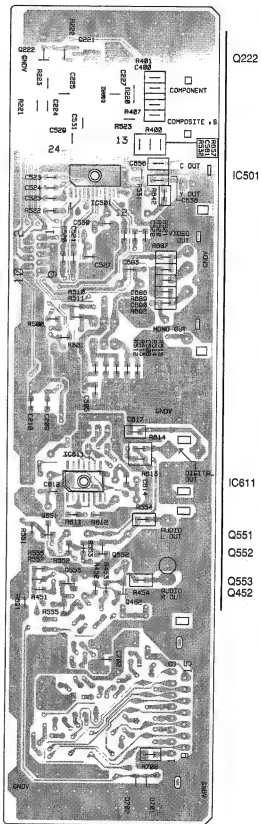
2

4

JEXTB ASSY

(DNP1937-B)

JJACB ASSY



SIDE B

A



44

5. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

●The Δ mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

●When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω \rightarrow 56 $\times 10^1$ \rightarrow 561 RD1/4PU 5 6 1 J

47k Ω \rightarrow 47 $\times 10^3$ \rightarrow 473 RD1/4PU 4 7 3 J

0.5 Ω \rightarrow R50 RN2H R 5 0 K

1 Ω \rightarrow 1R0 RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω \rightarrow 562 $\times 10^1$ \rightarrow 5621 RN1/4PC 5 6 2 1 F

5.1 LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.		Remarks
		DVD-V7400 /KU/CA	DVD-V7300D /WVY/RB	
NSP	LOAB ASSY	VWM1798	VWM1798	
NSP	LOMB ASSY	VWG1886	VWG1886	
NSP	LOSB ASSY	VWG1885	VWG1885	
NSP	TRAVERSE MECHANISM ASSY	VWT1170	VWT1170	
NSP	SMEB ASSY	VWG2048	VWG2048	
	DVDM ASSY	DWS1299	DWS1305	
NSP	FCJB ASSY	DWM2107	DWM2111	
	SUBB ASSY	DWG1528	DWG1527	
	KEYB ASSY	DWG1529	DWG1529	
	HPIR ASSY	DWG1530	DWG1530	
	PS2B ASSY	DWG1531	DWG1531	
	JACB ASSY	DWV1184	DWV1189	
	EXTB ASSY	DWV1185	DWV1185	
	SPDB ASSY	DWG1532	DWG1532	
Δ	SYPS ASSY	DWR1336	DWR1338	

■ CONTRAST OF PCB ASSEMBLIES

D DVDM ASSY

DWS1299 and DWS1305 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		DWG1299	DWS1305	
	R891	RS1/16S5600F	RS1/16S3600F	

E SUBB ASSY

DWG1528 and DWG1527 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		DWG1528	DWG1527	
	R104 R105	Not used RS1/10S103J	RS1/10S103J Not used	

I JACB ASSY

DWV1184 and DWV1189 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		DWV1184	DWV1189	
	L681 R692	LFA220J RS1/10S0R0J	Not used Not used	

PCB PARTS LIST FOR DVD-V7400/KU/CA UNLESS OTHERWISE NOTED

Mark	No.	Description	Part No.
A		LOMB ASSY	
OTHERS			
	CN401	KR CONNECTOR	B2B-PH-K-S

B		LOSB ASSY	
SWITCH			
	S301		VSK1011
OTHERS			
	CN303	KR CONNECTOR	B2B-PH-K-S
	CN302	8P FFC CONNECTOR	VKN1268
	CN301	12P FFC CONNECTOR	VKN1272

C		SMEB ASSY	
SWITCH			
	S201		DSG1016
OTHERS			
	CN201	3P FFC CONNECTOR	52044-0345
	CN202	8P FFC CONNECTOR	VKN1212

D DVDMM ASSY **SEMICONDUCTORS**

IC21	CY2081SL-655
IC803	DYW1662
IC101	LA9701M
IC201	LC78652W
IC352	M56788FP
IC803	M5M4V18165DTP-6S
IC801	M65773AFP
IC802	MB811171622A-100FN
IC806	MC44724A
IC612	MC74VHC541DT
IC611, IC807, IC905	MC74VHC7541ADT
IC702	MN414800CSJ-07
IC261, IC302	NJM2100M
IC601	PD3410A
IC701	PD4995A
IC604	TC55V2001F-85L
IC751	TC7SH32FU
IC24-IC27, IC303, IC73	TC7SHU04F
IC610	TC7W53FU
IC22	TC7WH74FU
Q106, Q109, Q807-Q812	2SA1576A
Q105, Q114	2SC4081
Q602	DTA114EUA
Q107, Q111, Q601	DTA114EUA
Q103, Q281, Q542, Q543	HN1B04FU
Q108	HN1K03FU
Q101	IMX1
Q102	HN1A01F
Q503	RN1911

Mark	No.	Description	Part No.
	Q112, Q113		UMX1N
	D302		KV1470
	D601		RB501V-40
	D501, D502		RB521S-30

COILS AND FILTERS

F5050, F5090	DTF1067
F4010, F4020, F4030, F4040, F4050	DTF1070
F4060, F8330, F8510, F8520, F9590	DTF1070
L9390, L9400, L9430, L9440, L9450	QTL1015
L9460, L9470, L9480	QTL1015
F852	VTF1155
L304	VTL1059
L151	VTL1061
L1400	VTL1088
L9490, L9500, L9510	VTL1105
L101, L330	VTL1125

CAPACITORS

C612	CCSRCH100D50
C123, C145, C21, C282, C617	CCSRCH101J50
C126, C333	CCSRCH150J50
C206, C210, C211	CCSRCH151J50
C322	CCSRCH180J50
C116, C151, C314	CCSRCH220J50
C152	CCSRCH221J50
C632	CCSRCH330J50
C209	CCSRCH331J50
C104-C108, C128, C134, C297	CCSRCH470J50
C335	CCSRCH470J50
C122, C208	CCSRCH471J50
C73	CCSRCH580J50
C127, C334	CCSRCH580J50
C124, C146	CCSRCH580J50
C117, C240, C352, C360	CCSRCH881J25
C129, C142, C22, C405, C801	CEV101M10
C701, C763, C801, C802, C804	CEV101M10
C857	CEV101M10
C113, C139, C358, C368, C411	CEV220M16
C111, C147, C149, C205, C207	CEV470M6R3
C401, C403, C407	CEV470M6R3
C502	CKSQYB103K50
C140, C223, C224, C264, C312	CKSQYB105K10
C229	CKSQYB224K16
C217	CKSQYF105Z16
C216, C313	CKSRYB102K50
C133, C136, C203, C220, C225	CKSRYB103K50
C239, C320, C321, C619, C703	CKSRYB103K50
C722	CKSRYB103K50
C101, C102, C114, C118, C119	CKSRYB104K16
C121, C130, C138, C204	CKSRYB104K16
C212, C213, C227, C228, C231	CKSRYB104K16
C24, C263, C315-C317, C332	CKSRYB104K16
C75	CKSRYB104K16
C354	CKSRYB222K50
C153, C266	CKSRYB223K25
C214, C261	CKSRYB472K50
C357	CKSRYB473K16
C330	CKSRYB682K50

Mark	No.	Description	Part No.
	C109, C110, C120, C131, C148 C150, C202, C215, C221, C222 C226, C230, C235, C265, C29 C31, C33, C35, C359, C367 C369-C372, C402, C404, C406		CKSRFY104Z16 CKSRFY104Z16 CKSRFY104Z16 CKSRFY104Z16 CKSRFY104Z16
	C408, C410, C412, C501 C602-C611, C613-C616 C621-C623, C625-C627 C630, C631, C702, C704-C714 C716-C721, C723-C725		CKSRFY104Z16 CKSRFY104Z16 CKSRFY104Z16 CKSRFY104Z16 CKSRFY104Z16
	C761, C762, C822, C827, C829 C832-C834, C836, C838, C840 C856, C858-C864, C872 C875, C876, C879-C881, C921 C143, C319, C806-C819		CKSRFY104Z16 CKSRFY104Z16 CKSRFY104Z16 CKSRFY104Z16 CKSRFY105Z10
	C328, C821, C824, C825, C828 (2.2μF) C830, C837 (2.2μF) C23, C299 (0.47μF)	VCG1030 VCG1030 VCG1032	

RESISTORS

R123 (39Ωx4) R715, R716 (47Ωx4) R531, R543, R545, R613 (10kΩx4) R648, R649, R706, R707, R748 (10kΩx4) R751 (10kΩx4)	ACN7047 DCN7077 DCN1094 DCN1094 DCN1094
R121, R532, R732, R736 (22Ωx4) R785, R786, R818-R820, R825 (22Ωx4) R848, R849 (22Ωx4) R1020, R162, R2010, R2020, R2030 R2040, R3050, R3520, R506, R510	DCN1104 DCN1104 DCN1104 RS1/10S0R0J RS1/10S0R0J
R520, R601, R701, R801, R9220 R9230, R9240, R941, R942 R952-R958, R960, R964 R864 R361, R364	RS1/10S0R0J RS1/10S0R0J RS1/10S0R0J RS1/16S1001F RS1/16S1203F
R861 R363, R365 R837-R839 R860, R863 R829, R888, R895	RS1/16S1501F RS1/16S1503F RS1/16S1800F RS1/16S1801F RS1/16S4700F
R164, R891 R3510 (100Ω) Other Resistors	RS1/16S5600F VCN1120 RS1/16S□□□ J

OTHERS

CN71 X601 CN106 CN201 CN120 CN1030 CN602, CN901 CN110 CN905 CN252	CONNECTOR (20MHz) 7P CONNECTOR 14P CONNECTOR 24P CONNECTOR 12P CONNECTOR 15P CONNECTOR 26P CONNECTOR 17P CONNECTOR 7P CONNECTOR	B2B-ZR-SM3 DSS1110 VKN1299 VKN1324 VKN1464 VKN1471 VKN1474 VKN1479 VKN1503 VKN1575
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LABEL

VRW1773

Mark	No.	Description	Part No.
E	SUBB ASSY		
	SEMICONDUCTORS		
Δ	IC100 (0.6A/50V) IC201 IC103 IC230 IC302, IC303 IC300 IC101 IC102 IC232 IC301 IC231 Q300 Q201 D102, D300, D301 D230 D302, D303		ICP-N15 LM1881M M51953BFP NJM2100M NJM4556AM PCM1716E PD4954A S-3511AEFS TC4W53F TC7SU04F TC7WU04FU 2SC1740S DTC124EK 1SS355 KV1851 UDZ56.2B

COILS AND FILTERS

L303 L230, L231, L306, L307, L803 L901-L906 F300, F301, F304, F305 L804	LAU220J-TA QTL1015 QTL1015 VTF1096 VTL1019
---	--

CAPACITORS

C236 C322, C328 C323, C333 C238 C207 C107 C304, C317, C327, C337 C302, C325, C331, C342, C343 C307 C105, C203, C310, C313 C311, C320, C326, C329, C332 C334, C335, C339 C206 C201 C101 C239 C103, C104 C102, C106, C121, C234 C109, C111, C115, C202 C204, C205, C232, C233, C237 C300, C303, C308, C309, C312 C314, C315, C321, C324, C330 C338, C341, C344, C231 C208, C305, C306, C316 C318, C319 C340 C230 C110, C112 (0.22F/25V)	CSSQCH200J50 CSSQCH221J50 CSSQCH330J50 CSSQCH470J50 CSSQCH471J50 CSSQCH4R0C50 CEJA101M10 CEJA101M16 CEJA331M6R3 CEJA470M16 CEJA470M25 CEJA470M25 CEJANP1R0M50 CEV100M16 CEV470M16 CKSQYB472K50 CKSQYB102K50 CKSQYF103Z50 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF105Z16 CKSQYF105Z16 CKSQYF473Z50 COMBA332J50 DCH1037
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RESISTORS

R1001-R1003 (10kΩ) R326, R337 R324, R333 VR230 (10kΩ) Other Resistors	DCN1094 RN1/10SE1602D RN1/10SE8201D VCP1156 RS1/10S□□□ J
---	--

DVD-V7400, DVD-V7300D

Mark	No.	Description	Part No.
------	-----	-------------	----------

OTHERS

CN301	2P CONNECTOR	B2B-ZR-SM3
	PCB BINDER	DEF1012
X230	(13.824MHz)	DSS1117
	PCB BINDER	VEF1040
CN201	7P CONNECTOR	VKN1183
CN103	15P FFC CONNECTOR	VKN1191
CN101, CN302	17P CONNECTOR	VKN1193
CN102	26P FFC CONNECTOR	VKN1202
KN100-KN102		VNF1084
X102	EARTH METAL FITTING (32.768KHz)	VSS1122
X101	(5MHz)	VSS1142

F KEYB ASSY

SEMICONDUCTORS

IC151	BU2090F
IC152	NJM2930L05
Q150-Q152	DTA124EK
D159	BR1112H
D158, D160	PG1112H-430
D153	SLR-343DC
D154, D157	SLR-343MC
D152, D155	SPR-505MVW

COILS AND FILTERS

L151	VTL1019
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SWITCHES AND RELAYS

S151-S157, S159	ASG7013
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CAPACITORS

C155	CEV101M10
C151	CEV470M6R3
C152, C153, C156, C157	CKSQYF104Z25

RESISTORS

Other Resistors	RS1/10S□□□ J
-----------------	--------------

OTHERS

CN152	7P CONNECTOR	07PL-FJ
CN153	6P CONNECTOR	52492-0620
CN151	17P FFC CONNECTOR	VKN1309

G HPIR ASSY

SEMICONDUCTORS

D191	1SS355
------	--------

COILS AND FILTERS

L181-L183, L187, L191-L193	QTL1015
F191	VTH1009

CAPACITORS

C182, C183	CCSQCH101J50
C192	CEJA101M10
C193	CKSQYF104Z25
C181, C191 (1000PF/18V)	VCX1001

Mark	No.	Description	Part No.
------	-----	-------------	----------

RESISTORS

VR181	(0.5kΩ-B)	VCS1042
Other Resistors		RS1/10S□□□ J

OTHERS

CN191	7P CONNECTOR	07R-FJ
JA191	JACK	AKN7008
191	REMOTE RECEIVER UNIT	GP1U26X
JA181	JACK	VKN1449

H PS2B ASSY

SEMICONDUCTORS

D801-D80	1SS355
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COILS AND FILTERS

F801-F804	VTH1039
-----------	---------

CAPACITORS

C801-C804	CKSQYB152K50
C805	CKSQYF104Z25

RESISTORS

Other Resistors	RS1/10S□□□ J
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OTHERS

CN801	6P CONNECTOR	52044-0845
JA801	PCB HOLDER SOCKET	DNE1391 VKN1450

I JACB ASSY

SEMICONDUCTORS

IC501	LA7135AM
IC701	MAX202ESE
IC220	NJM78M08FA
IC611	TC74HCU04AF
Q551	2PB709A

Q222	2PD601A
Q221	2SB1260
Q505, Q506	2SC1740S
Q452, Q552	2SD2114K
Q701-Q708	DTA124EK

Q553	DTC124EK
D702	1SS355
D701	UDZS5.18

COILS AND FILTERS

L610, L681	LFA220J
L611	PTL1003
L802	RTF1167
F701-F704	VTH1039
L701	VTL1019

SWITCHES AND RELAYS

S401	VSH1009
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CAPACITORS

C400	CCSQCH101J50
C687	CCSQCH471J50
C228, C519, C528, C611, C613	CEAT101M10
C226	CEAT101M16
C560, C684	CEAT102M6R3

Mark	No.	Description	Part No.
	C689		CEAT470M25
	C526		CEJA101M10
	C701		CEV101M10
	C451, C551		CKCYB331K50
	C506, C520-C522, C561		CKSQYB104K25
	C224, C614		CKSQYF103Z50
	C225, C227, C527, C530, C531		CKSQYF104Z25
	C612, C616, C617, C690		CKSQYF104Z25
	C702-C707		CKSQYF104Z25
	C209, C210, C529		CKSQYF105Z16

RESISTORS

R701 (100Ω)	DCN1092
R642, R657	RN1/10SC62R0D
R687	RN1/10SC68R0D
Other Resistors	RS1/10SC□□ J

OTHERS

JA702	D-SUB SOCKET 15P	DKN1111
JA604	JACK	VKB1046
JA603	JACK	VKB1068
JA610	JACK	VKB1077
JA602	SOCKET	VKN1072
CN653	10P CONNECTOR	VKN1186
CN601	15P CONNECTOR	VKN1307
CN602	26P CONNECTOR	VKN1318
	SCREW PLATE	VNE1948

J **EXTB ASSY**
SEMICONDUCTORS

Q901	2SC1740S
D901, D902	1SS355

SWITCHES AND RELAYS

S901	VSH1009
S750	VSH1020

CAPACITORS

C902	CEAT470M16
C774, C776, C795	CEAT471M6R3
C901	CEJANP220M10
C753, C903	CKSQYF104Z25

RESISTORS

R762, R780, R798	RN1/10SC62R0D
R811	RN1/10SC68R0D
Other Resistors	RS1/10SC□□ J

OTHERS

CN751	10P CONNECTOR	VKN1302
JA751-JA753	BNC JACK	VKN1447
	SCREW	VNE1948

K **SPDB ASSY**
SEMICONDUCTORS

IC251	BA6849FP
Q251	2SC2412K
Q250	DTC114YK

SWITCHES AND RELAYS

S251	VSH1009
------	---------

CAPACITORS

C253, C255	CEAT470M16
C262-C264	CKSQYB333K50
C257	CKSQYB821K50
C258	CKSQYB822K50
C251	CKSQYF103Z50

C252, C254, C256	CKSQYF104Z25
C259-C261	CKSQYF105Z16

RESISTORS

R256-R258	RS1/4S2R2J
Other Resistors	RS1/10SC□□ J

OTHERS

	PCB BINDER	DEF1012
CN255	11P CONNECTOR	VKN1187
CN253	12P CONNECTOR	VKN1188
CN251	7P CONNECTOR	VKN1211
CN252	2P CONNECTOR	VKN1216
CN257	24P CONNECTOR	VKN1464

6. ADJUSTMENT

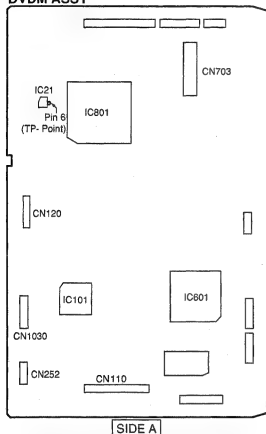
6.1 ADJUSTMENT ITEMS AND LOCATION

Note : When the Traverse mechanism adjustment is prnot operly adjusted, jitter, error rate and play ability are defective.
The noise may come out by the case.

■ Adjustment Points (PCB Part)

● TP-Point

DVDM ASSY



● Adjustment Point

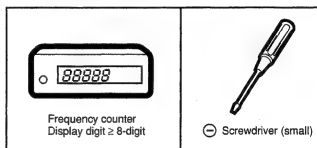
SUBB ASSY

■ Adjustment Items

[Electrical Part]

- ① 13.824MHz VCXO F0 Adjustment

6.2 JIGS AND MEASURING INSTRUMENTS



6.3 NECESSARY ADJUSTMENT POINTS

When

Adjustment Points

■ EXCHANGE PCB ASSY

Exchange board
SUBB ASSY



Mechanical
point

Electric
point

Exchange board
DVDM ASSY



Mechanical
point

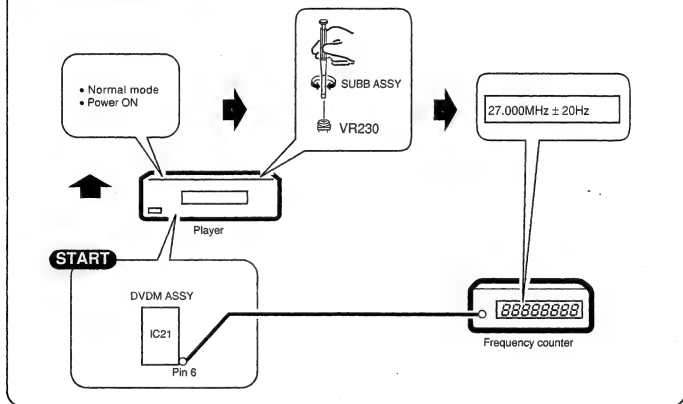
Electric
point

Note : ① is adjusted already.

6.4 ELECTRICAL ADJUSTMENT

① 13.824MHz VCXO F0 Adjustment

- When not properly adjusted : Uneven color



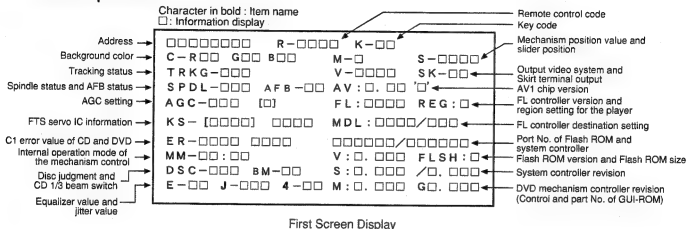
7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE SCREEN DISPLAY

Consecutive double-OSD display is supported during test mode. The screen is composed 10 lines with a maximum of 32 characters per line. It can't be used with the debugging display mode together.

• Screen Composition



Caution :

- The first screen and second screen switch by pressing [DISPLAY] key of the remote control unit.
- It is only a version display part on the lower right of the screen those contents of display change.
- MDL: V730□□□□ (All models of DVD-V730, DVD-V7400 and DVD-V7300D are displayed like the left.)
- The displays of Tilt error value, Tilt servo status and pickup DVD/CLD display deleted.

• Description of Each Item on the Display

(1) Address Indication

The address being traced is displayed in number.

DVD : ID indication (hexadecimal number, 8 digits)

[*****]

CD : A-TIME (min. sec.) [0000****]

(Note : For DVDs, decimal-number indication is possible.)

(2) Code indication of the remote control unit

[R-****]

The code for the key pressed on the remote control unit, which is received by the FL controller, is displayed while the key is pressed. In the case of the double code, the second code will be displayed.

(3) Key code indication for the main unit [K-****]

The code for the key pressed on the main unit, which is received by the system controller, is displayed while the key is pressed.

(4) Background color indication [C-R* G* B* *]

(5) Tracking status [TRKG-****]

Tracking on
Tracking off

[ON]
[OFF]

(6) ① Spindle status [SPDL-****]

Spindle accelerator and brake, free-running [A/B]
FG servo [FG]
Rough, velocity phase servo [SRV]
Offset addition, rough, velocity phase servo [O_S]

② AFB status [AFB-****]

ON [ON]
OFF [OFF]

(7) Mechanism position value [M-****]

Position code [1] to [3]

(8) Slider position [S-****]

CD TOC area [IN]
CD active area [CD]

(9) AGC setting [AGC-****]

AGC on [AGC-ON]
AGC off [AGC-OFF]

(10) Output video system [V - * * *]

NTSC system	[NTSC]
PAL system	[PAL]
Auto-setting	[AUTO]

Skirt terminal output [SK - *]

VIDEO	[00]
S-VIDEO	[01]
RGB	[02]

* : Display only the model which can do the output setting of skirt terminal.

(11) FTS servo IC information

DSP coefficient indication [KS - [* * * *] * * * *]
 Displays the address (four digits) of the specified coefficient and the setting value (four digits) with [TEST] and [9] keys.

(12) Error rate indication

- ① C1 error value of CD [ER - C1 * * * *]
 ② C1 error value of DVD [ER - * * * * * * * *]

(13) Internal operation mode of mechanism controller**[MM - * : *]**

Internal mechanism mode (2 digits) and internal mechanism step (2 digits) of the mechanism controller

(14) ① Disk sensing [DSC - * *]

The type of discs loaded is displayed.
 [DVD], [CD], [VCD], []

② CD 1/3 beam switch [BM - *]**(15) ① Equalizer value [E - *]****② Jitter value [J - *]**

nake the jitter four times, and renew it in every one second.
 [4 - * *]
 CD is effective only in the jitter value.

(16) Version of the AV-1 chip [AV : * . * * *']**(17) ① Version of the FL controller****[FL : * * *]****② Region setting of the player [REG : *]**

Setting value [1] to [6]

(18) Destination setting of the FL controller**[MDL : * * * * / * * *]**

For characters in front represent the type of model :
 There characters that follow represent the destination code.
 J : /J, K : /KU, /KC, /KU/KC, R : /RAM, /RL, /RD, /LB,
 WY : /WY

(19) The part number of the flash ROM and system controller [* * * * * / * * * * *]

- ① Part number of the flash ROM <Front>
 (Example) VYW1536-A → W1536A
 (Example) PD6256A9 → 6256A9
 ② Part number of the system controller <Rear>
 (Example) PD3381T1 → 3381T1

(20) ① Version of the flash ROM [V : * . * *]**② Flash ROM size [FLSH = *]****(21) Revision of the system controller****[S : * . * * / * . * *]**

- ① Revision number of the external ROM part (flash ROM) of the system controller <Front>
 ② Revision of the internal ROM part of the system controller <Rear>

(22) Revision of the DVD mechanism controller**[M : * . * *]**

Revision number of the external ROM part (flash ROM) of the DVD mechanism controller

(23) Control and part numbers of the GUI-ROM**[GUI : * * * *]**

No GUI model displays as "— / —".
 OEM model displays the part number of GUI-ROM [GUI : * * * *]

7.1.2 Display of the Error History

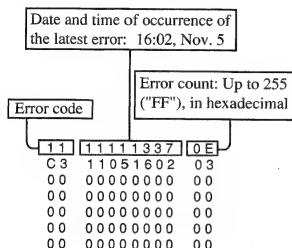
- The type, date and time, and the number of occurrences of errors of the player can be recorded.

Up to 8 types of errors can be recorded, and the number of occurrences can be counted up to 255 per error type.

The date and time of the latest error is recorded per type. The date and time are based on the real-time clock built into the player.

If the real-time clock has not been set or the setting is wrong, the dates and times of occurrence recorded will be those of the clock at that time.

- An example of the error history display is shown below:
Example of the error history display



How to display the error history

- Press the ESC, TV/LDP, then SIDE A keys on the remote control unit for service use, in that order.

How to clear the data of the error history

- While the error history is displayed, press the CLEAR key on the remote control unit for service use.

Display of power-on and playback duration

- The power-on duration and playback duration of the player can be recorded.

See below for how to display power-on and playback duration.

- Power-on duration: Accumulated power-on duration of the player.

- Playback duration: Accumulated playback duration of the player. Duration is counted even in Pause and Still modes. This playback duration can be considered to be the spindle motor's duration of rotation or duration of use of the laser diode.

Note: The power-on duration and playback duration are measured using the CPU clock of the player, so you should allow for about 2% error. Use these displays merely as a guide for servicing.

- The data of the power-on and playback duration are not cleared if the player's software upgrade is downloaded from the dedicated web site.

(As for the DVD-V700, the data of the power-on and playback duration are cleared when the player's software is upgraded.)

How to display power-on and playback duration

- While pressing the DISPLAY key of the main unit, set the POWER switch to ON. (This is also explained in the Operating Manual.)

- In the above example, two types of errors are recorded, and six other types of errors can be further recorded. In the above two cases (error codes "11" and "C3"), the error history will be recorded until their error count becomes "FF."

- The data of the error history can be cleared if the number of error types reaches eight or the number of errors reaches 255. After the data of the error history are cleared, new errors can be recorded. (Cleared data of the error history cannot be restored. It is recommended that the data of the error history be written down before clearing.)

7.1.3 ERROR CODE TABLE

• ERROR CODE

Error code	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
11	Search timeout	Search could not be complete within 7 seconds.	Search could not be complete within 7 seconds, and it could not enter the target area within 7 seconds by VCD scan.	CD : Stops, DVD: Continues operation
12	Search retry error	A search could not be completed after 3 retries, search backup was executed 4 times, or in a case of timeout (6 seconds) while the unit was tracing 11 tracks or more beyond the target while the search operation was converging.	Backup against slider skip was executed 4 times during a search, or slider skip twice resulted in starting from the read-in point.	CD: Stops, DVD: Continues operation
19	Tracing timeout while converging	Timeout (10.5 seconds) while tracing at the stage of convergence of a search.		Stop
1B	Index 0 search error		During Track (Index) Search, the search for the beginning of a program could not be completed within 3 seconds (20 seconds in the case of Index Search) after positioning based on the TOC data was completed.	Stop
22	Timeout of slider inner circumference	Inside switch could not ON within 3 seconds.		Stop
23	Timeout of slider outer circumference	Inside switch could not OFF within 2 seconds.		Stop
33	No FOK pulse during playback CLVA	When the focus was deviated continuously 20 times.		Adjusts focus at the innermost circumference and tries to return to its position where the error was generated (for 3 times) then opens. If the same error persists after one retry, the tray opens. (No FOK pulse)
38	Disc-type-sensing error	If normal starting was impossible in the following three cases, disc-type sensing will be retried if other errors occur excepting C5 error. However, when the focus error "33" was occurred continuously 3 times, it is finished as "38 error" at the moment: (1) startup with the first disc-type-sensing result, (2) forced startup with another disc by designating the disc type, (3) forced startup with the original disc by designating the disc type.		Open

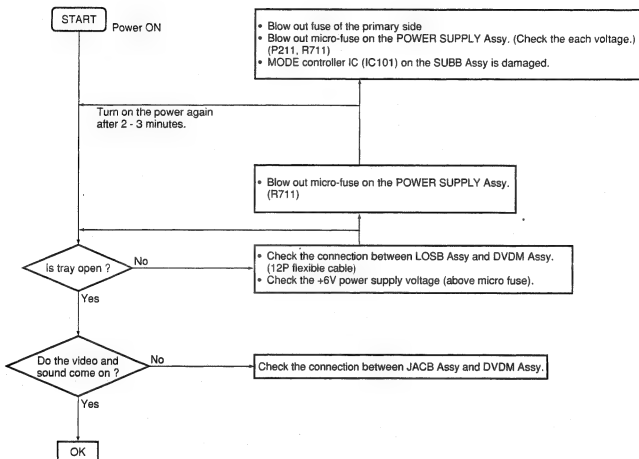
DVD-V7400, DVD-V7300D

Error code	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
39	SGC converge timeout	SGC could not converge during detects the peak		Open
41	Spindle timeout	The unit did not enter Stop mode within 10 seconds of issuance of a Stop command.		Stop
48	Spindle FG transition timeout	<p>The spindle could not converge into within $\pm 12\%$ of the target FG rotation speed within 10 seconds after spindle kick.</p> <p>The first time after startup (the first time after disc distinction), it doesn't become the number of the target rotation within five seconds.</p> <p>The first time after startup, detects the abnormal rotation number of high-speed continuously 3 loops.</p> <p>DVD: 5 to 9 mS , CD: 40 to 60 mS</p>		Stops. (FG timeout)
49	Spindle PLL transition timeout	<p>After the second times after startup, it doesn't become the number of the target rotation within five seconds.</p> <p>Detects the abnormal high-speed or low-speed rotations.</p> <p>DVD: 5 to 9 mS , CD: 40 to 60 mS</p>		Stops. ("73" is displayed during starting process.)
4A	Spindle lock timeout	Spindle could not lock more than 1.5 seconds before start the AFB.		Stops. ("73" is displayed during starting process.)
51	Auto sequence timeout of peak detection	ABUSY did not return within 1 second after the DDTCT (peak detection) command was sent.		Stop
52	Auto sequence timeout of focus jump down	ABUSY did not return within 30 mS after the FJMPD (Focus jump 1 to 0) command was sent.		Stop
53	Auto sequence timeout of focus jump up	ABUSY did not return within 30 mS after the FJMPU (Focus jump 0 to 1) command was sent.		Stop
54	Auto sequence timeout of play AGC	ABUSY did not return within 50 mS after the GSUMON (play-AGC-measuring) command was sent.		Stop
55	Auto sequence timeout of disc-type-sensing	ABUSY did not return within 2 seconds after the DJSRT (disc-sensing) command was sent.		Stop
56	Auto sequence timeout of ATB2	ABUSY did not return within 1 second after the TBLOFS (Internal ATB after the completion of external ATB) command was sent.		Stop
57	Auto sequence timeout of tracking servo ON	ABUSY did not return within 500 mS after the TSON (tracking servo ON) command was sent.		Stop
58	Auto sequence timeout of ATB1	ABUSY did not return within 200 mS after the TBL (external ATB) command was sent.		Stop
59	Auto sequence timeout of focus gain adjustment	ABUSY did not return within 2 seconds after the FGN (focus gain adjustment) command was sent.		Stop
5A	Auto sequence timeout of tracking gain adjustment	ABUSY did not return within 2 seconds after TGN (tracking gain adjustment) command was sent.		Stop
5B	Auto sequence timeout of offset adjustment	ABUSY did not return within 1 second after the CMDAVE (offset adjustment) command was sent.		Stop
5C	Auto sequence timeout of modulation factor measurement	ABUSY did not return within 200 mS after the ADMIR (modulation factor measurement) command was sent.		Stop
5D	Auto sequence timeout of auto focus bias	ABUSY did not return within 2 seconds after the AFB (auto focus bias) command was sent.		Stop
5F	Auto sequence already busy	A command could not be sent because ABUSY was low. ABUSY did not return within 200 mS after TLV command was sent.		Stop
62	Pause retry error	Pause mode could not be restored within three retries after it had been released.		Continues operation

Error code	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
71	ID can not read during tracing	An ID could not be read for 1 second or more.		Stop
72	Subcode check failure during playback		No frame could be read for 3 seconds or more.	Stop
73	ID can not read at the startup	An ID could not be read within 1 second after the AFB adjustment had been finished.		Opens (ID readout failure)
74	Subcode check failure during startup		No subcode could be read within 3 seconds after AFB adjustment had been finished.	Opens (Subcode readout failure).
81	Timeout for reading TOC of the mechanism controller		TOC readout took 30 seconds or more.	Stop
82	Timeout for reading TOC of the system controller		Reading TOC of the system controller took 30 seconds or more.	Stop
A1	Communication timeout of DSP command	A command could not be issued to DSP because Command Busy (XCBUSY) was in force (XCBUSY = L) for a specified time (about 200 μ S).		No operation
A2	Communication timeout for reading DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 200 μ S) before and after a coefficient read command was issued to DSP, or the address echo-back after command issuance did not match the setup address.		No operation
A3	Communication timeout for writing DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 1024 mS) before and after the coefficient write command was issued to DSP.		No operation
A4	Communication timeout for continuously writing DSP coefficient	Command Busy (XCBUSY) was in force for 200 μ S during continuous coefficient writing, or before and after a continuous write command was issued to DSP.		No operation
B1	Timeout error for backup	In the tracing state during the backup sequence, codes could not be read for 1 second or more. In the backup sequence, tracking ON sequence of the servo DSP could not be completed even if more than 500 mS after the tracking ON command was issued.		Stops
B2	Retry error for backup	Tracing impossible after retrying the tracking ON for 3 times in the backup sequence.		Stops
B3	Retry error for trace	During tracing, runaway was detected after three iterations of backup operations for detecting runaway.		Stops
C3	Detection of tracking overcurrent	During playback, the overcurrent detection port was at L for 300 ms or more continuously.		Stops (the mechanical controller operates independently).
(C5)	Short-circuit test corresponding error	While the power was on, the overcurrent detection port was at L for 40 ms or more continuously.		Turns off the power instantly (No indication on the FL display and no writing to flash memory)
E3	Violation against digital copy guard			Stops
F5	Tray being pushed	The tray switch that had been Open mode was forcibly changed to a mode other than Open by an external force.		Closes
F8	Loading timeout	Loading, unloading or clamping could not be completed within a specified time (about 5 seconds).		Reverses the loading direction. It timeout is repeated upon retry, the unit stops.
FC	Focus	The following error occurred eight times. (1) Focus ON sequence could not be completed even if more than two seconds after the focus ON command (to the servo DSP) was sent. (2) Focus IN sequence was finished, actually focus IN was not completed.		Stops wherever possible then opens (stops in the case of side B).

7.1.4 TROUBLE SHOOTING

• No Power ON



7.1.5 SERIAL CONTROL

1. Serial Interface Specifications

■ Signal Interface

The signal interface is a standard RS-232C connection.

■ Data Type

Data Length: 8 bit
Stop Bit: 1 bit
Parity bit: No Parity

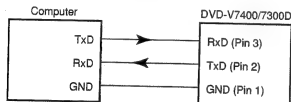
■ Data Transfer Speed (Baud Rate)

The data transfer speed may be set to either 4800 or 9600 baud through the Industrial player menu screen and/or with the Advanced Feature Menu Set command (please refer to the DVD-V7400/V7300D Operating Instructions and the Advanced Feature Menu Set command description).

NOTE: The factory default is 4800 baud; however, the player memorizes the transfer speed each time the power is cycled.

2. Communication with a Computer

The DVD-V7400/V7300D communicates to the computer through the player's RS-232C port using pins 2 and 3 for communication and Pin 1 for grounding. Control or "handshaking" lines other than the Tx/D and Rx/D connections are not required. Please refer to the diagram below for clarification.



Some computers require the CTS port to be set to HIGH during communication. It is best to connect the CTS port on the computer to the DTR port on the player. During normal operation the player's DTR is set to HIGH thus the unit is able to receive a command at any time.

3. Command and Status

During normal operation, a computer transmits commands to a DVD-V7400/V7300D and the player responds with the status message, 'execution complete'.

Example:

COMPUTER		DVD-V7400/V7300D
(1) "Search to Frame 1000"	➡	(2) Search Execution
	⬅	(3) Complete
(4) "Play to Frame 2000"	➡	(5) Play Execution
	⬅	(6) Complete

NOTE: The length of a command string is limited to 32 characters. Please refer to COMMAND STRUCTURE for additional information.

When using a computer to control the DVD-V7400/V7300D player, follow the command protocols listed below:

- ASCII characters are used for actual commands and status response
- Command mnemonic is expressed as two (2) ASCII characters
- Uppercase letters are recommended; however, usually there are no distinctions between the uppercase and lowercase letters
- Some commands require an argument (e.g. chapter number or speed)
- Use a command as the terminator of an argument

The player executes a command as soon as the carriage return <CR> is received. The <CR> acts as the command line terminator.

Example:

CH<CR> : Set chapter for address mode
10SE<CR> : Search to chapter 10

The player has a command buffer, which stores a command string of up to 32 characters in length.

Example:

10SE 20PL<CR> : Search to chapter 10 then play to 20

The command string enters the buffer with the left character and continues sequentially from left to right. When the <CR> is entered, the commands are executed sequentially beginning with the first command in the buffer. In the example above, the first command is 10SE.

NOTE: The player ignores codes in the command string such as <SPACE> or <LF> (line feed) which do not affect the player's operation.

NOTE: Some commands, sent after a specialty command which includes an AUTOSTOP setting, (PL, MF, MR, etc.), cause the player to execute the new command before the AUTOSTOP is enacted.

When all the commands in a string have finished executing, the player transmits or returns the "complete" message.

The player returns an R after a command has been executed. This response is called the Automatic Status. The Automatic Status signals the computer program to send the next command. If this function is not used, the command processing time must be taken into consideration before the next command is sent.

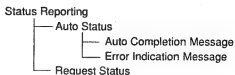
If an error occurs, the player returns an error message such as E04. The error indicates an error has occurred as well as the type of error. Error messages are in the form of EXX where XX represents a 2-digit error code.

In some cases, an incorrect command sends the player to search within a non-recorded area and the player returns an error message. Use the Request Status function to determine the unit's current status (actual player hardware failures are rare).

Apply one of the following methods to reset the player after an error has occurred:

- Use ?P to determine the Active mode of the player
- Use ?X, ?W, ?M, ?H, ?S to determine the player information, model name, clock time, player region code, the setting of Industrial Player Menu, etc.
- Use ?F, ?T, ?C, or ?R to determine the current frame, time, chapter, title/track number, respectively.
- Use ?V, ?D, ?K, ?G, ?Y, or ?Q to determine the disc information, disc type, total frame number, TOC information, etc.

The status functions are summarized below:



4. Error Messages

If an error occurs during a command execution, the player returns an error code. The table below lists each code with a description of the error:

Code	Message	Description
E00	Communication error	Communication Line Error due to framing error or buffer overflow
E04	Feature not available	Non-Usable Function has been tried - either the command mnemonic is wrong or the command can not be used in this mode
E06	Missing argument	Correct parameter is not specified
E11	Disc does not exist	There is no disc in the tray
E12	Search error	Search address is missing Read error of Text File; (When the command [UU] is executed)
E15	Picture stop	Playback has been stopped by a picture stop code while in the Auto Play mode
E16	Interrupt by other device	The command(s) sent via the serial line were not executed before commands were sent from the front panel buttons and/or remote control Forced end of the data transfer while Text File sends to PC (When the command [UU] is executed)
E99	Panic	Unrecoverable Error occurred - possible that a disc cannot be loaded and/or playing does not continue

5. Initial Setting

The following table provides the default internal register and switch settings. Take care to set each to the required parameters when creating an application program.

Register/Switch	Setting at Power ON
Key Lock	2 : If set to 2 power is OFF 0 : All other cases
Video Switch	1 : ON
Audio Switch	3 : Audio 1
Display Switch	0 : OFF
Address mode	1 : Time
Speed Parameter	30 : 1/2 Speed
CCR	3 : Mode 3
Register A	3 : Title/Chapter and Frame Display (DVD) Track/Time Display (CD, VCD)
Register B	0 : Normal Squelch
Register D	0 : CR

6. COMMAND STRUCTURE

The DVD-V7400/V7300D supports the commands listed below.

COMMAND		SUPPORTING FORMATS			
Name	Mnemonic	DVD	LB comp. DVD	CD	VCD
Open	OP	X	X	X	X
Close	CO	X	X	X	X
Reject	RJ	X	X	X	X
Start	SA	X	X	X	X
Play	(adrs) PL	X	X	X	X
Pause	PA	X	X	X	X
Still	ST	X	X		X
Step Forward	SF	X	X		X
Step Reverse	SR	X	X		
Scan Forward	NF	X	X	X	X
Scan Reverse	NR	X	X	X	X
Scan Stop	NS	X	X	X	X
Multi-Speed Forward	(adrs) MF	X	X		X
Multi-Speed Reverse	(adrs) MR	X	X		
Speed	arg SP	X	X		X
Search	adrs SE	X	X	X	X
Search & Play *1	adrs SL	X	X	X	X
Stop Marker	adrs SM	X	X	X	X
Lead Out Symbol	LO	X	X	X	X
Clear	CL	X	X	X	X
Frame	FR	X	X		
Block Number	BK			X	X
Time	TM	X	X	X	X
Chapter	CH	X	X		
Title	TI	X	X		
Index	IX			X	X
Track	TR			X	X
Select Subtitle	arg SU	X	X		
Select Audio	arg AU	X	X		
Select Aspect	arg AP	X	X		
Select Angle	arg AG	X	X		
Select Parental-Level	arg PT	X	X		
Audio Control	arg AD	X	X	X	X
Video Control	arg VD	X	X	X	X
Display Control	arg DS	X	X	X	X
Keylock	arg KL	X	X	X	X

COMMAND		SUPPORTING FORMATS			
Name	Mnemonic	DVD	LB comp. DVD	CD	VCD
Stack Group Set	arg GP	X	X		
Barcode / Command Stack Play	arg BS	X	X		
Video Blackboard Display	arg VS	X	X		
Video Blackboard Clear	arg CB	X	X		
Blackboard/Stack Data Upload*1	BU	X	X	X	X
Blackboard/Stack Data Download*1	BD	X	X	X	X
Weekly Timer Data Upload*1	WU	X	X	X	X
Weekly Timer Data Download*1	WD	X	X	X	X
Text File Data Upload*1	ULU	X	X		
Current Address Request	?A	X	X	X	X
Title/Track Number Request	?R	X	X	X	X
Chapter Number Request	?C	X	X		
Time Code Request	?T	X	X	X	X
Index Number Request	?I			X	X
Frame Number Request	?F	X	X		
Block Number Request	?B			X	X
Total Frame Request	?Y	X	X		
TOC Information Request	?Q			X	X
Disc Region Code Request	?G	X	X		
DVD Disc Status Request	?V	X	X		
LD Disc Status Request	?D		X		
CD Disc Status Request	?K			X	X
Register A Set (Display)	arg RA	X	X	X	X
Register B Set (Squelch)	arg RB	X	X	X	X
Register D Set (Tx/D Term) *1	arg RD	X	X	X	X
Print Character	arg PR	X	X	X	X
Clear Screen	CS	X	X	X	X
Real Time Clock Set	WW	X	X	X	X
Advanced Feature Menu Set *1	arg MS	X	X	X	X
Communication Control Set	arg CM	X	X	X	X
Player Active Mode Request	?P	X	X	X	X
Player Model Name Request	?X	X	X	X	X
Real Time Clock Request	?W	X	X	X	X
Advanced Feature Menu Request*1	?S	X	X	X	X
Player Region Code Request	?H	X	X	X	X
CCR Mode Request	?M	X	X	X	X

DVD-V7400, DVD-V7300D

COMMAND		SUPPORTING FORMATS			
Name	Mnemonic	DVD	LS comp. DVD	CD	VCD
Input Number Request	?N	X	X	X	X
Error Code Request	?E	X	X	X	X
Input Unit Request	#I	X	X	X	X
Input Barcode Data Request	#B	X	X	X	X
Register A Request	\$A	X	X	X	X
Register B Request	\$B	X	X	X	X
Register D Request*1	\$D	X	X	X	X
Menu Call*2	arg MC	X	X		
Numeric Button*2	arg NB	X	X		
Button Select*2	arg CU	X	X		

COMMAND		SUPPORTING FORMATS			
Name	Mnemonic	DVD	LS comp. DVD	CD	VCD
ENTER Button*2	(arg) ET	X	X		
Get Information*2	arg GI	X	X		

NOTE: Commands prefaced with an *1 are supported by firmware Version 2.00

NOTE: Commands prefaced with an *2 are supported by firmware Version 2.20

NOTE: A command with an argument or address parameter is prefaced by arg (argument) or ards (address). If the arg or ards is in parentheses (), the parameter is optional.

■ Command Mnemonic

Each command is expressed as two (2) ASCII characters. There is no distinction between uppercase and lowercase letters except when the Character strings are in a PR command.

NOTE: Do not issue a command without a Text File Data Upload [UU], Reject [RJ] or Open [OP] sequence while the video text is displayed. A command issued without one of these sequences causes the player to return an error code E04.

■ Argument

An argument is expressed in either ASCII characters or ten digits and consists of either an address or an integer. A Control Register uses an integer value to set a specified value or condition.

If a command requires an argument, it is always placed before the command.

Example : N1N2N3
 Minimum 000 ~ Maximum 300 (except MS command)
 Minimum 000 ~ Maximum 520703 (Only MS command)

NOTE: If a command requires an argument but one is not supplied, the player returns an error message.

A_n Address can be a title, a chapter, a track, an index number, a frame number, or a time code depending upon how the address flag is set. The Address must not exceed ten characters and/or digits.

Address Type	Media Type	Format	Range (Min - Max)
Title Number	DVD	N ₁ N ₂	0 - 99
Chapter Number	DVD	N ₁ N ₂	0 - 99
Frame Number	DVD/VCD	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ ^a	0 - 1079999
Time Code	DVD	N ₁ N ₂ N ₃ N ₄ N ₅ ^b	0 - 59959
	CD/VCD	N ₁ N ₂ N ₃ N ₄ ^c	0 - 9959
Track Number	CD/VCD	N ₁ N ₂	1 - 99
Index Number	CD/VCD	N ₁ N ₂	1 - 99
Block Number	CD/VCD	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ ^d	0 - 995974

^a N₄ N₅ N₆ minutes N₄ N₅ seconds are calculated into frame number.

^b N₁ N₂ N₃ minutes N₄ N₅ seconds.

^c N₁ N₂ minutes N₃ N₄ seconds.

^d N₁ N₂ minutes N₃ N₄ seconds N₅ N₆ block.

■ Command String

A command string consists of multiple commands on one line. The maximum length of a command string is 32 characters. All command strings are terminated by the Carriage Return <CR> code (0DH hex).

Example : FR2000SE 2300PL<CR>

NOTE: The Real Time Clock Set [WW], Print Character [PR], Blackboard/Stack Data Upload [BU], Blackboard/Stack Data Download [BD], Weekly Timer Data Upload [WU], Weekly Timer Data Download [WD], Text File Data Upload [UU] commands should be assigned individually.

Once the <CR> termination command is added to the string, the command string is evaluated and executed from left to right in sequential order.

If an error occurs during the execution of a String, the remainder of the string following that command is not executed.

If a new command string is input before the execution of the current string is complete, the current string is aborted and the remaining commands are cleared.

To cancel a currently executing string, send the termination command <CR> alone.

If a new command without Text File Data Upload [UU] is input while playing the current command stack, the remaining commands are cleared.

■ Status Returns

The completion message used in the Automatic Status is "R".

Example: R<CR>

■ Error Message

An error message is indicated by the letter E and followed by a two-character error code.

Example: EN1N2<CR>

The error message occurs when the given command cannot be processed.

■ Request Status Return

In response to a single request command, the status returns as a line of letters terminated by <CR>.

If multiple request commands are sent to the player within the same String, the player returns a separate status value upon completion of each command. A status value is a character string with a <CR> termination code.

Example: ?C7F<CR> → 02<CR>
10260<CR>

When the request command is at the end of the command string, the R within the completion message is omitted.

Example:
ST7F<CR> → 23005<CR> (completion omitted)

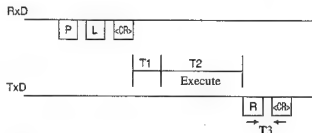
Example:
?FST<CR> → 23005<CR>R<CR> (not omitted)

■ Timing

The time it takes to receive a command and return a Status Value is defined as follows:

T1 represents the time from when the termination of the String <CR> is received to the beginning of the execution of the command extension. The maximum is approximately 24ms.

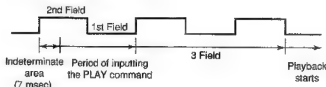
T2 represents the time it takes to execute the command. Depending upon the command type and the player's condition, the minimum is 14ms.



■ Playback in External Sync Mode

In External Sync mode, the player synchronizes the transition from the reception of a PL (PLAY) command to playback or from Still mode to playback with a Vertical Sync signal for simultaneous start of multiple players. Therefore, the timing for starting playback can be controlled by the timing of sending the PL command to the players, as described below.

Playback starts from the first field, which is located three fields after the PL command was received in video Still mode. The indeterminate area is a 7-msec period from the beginning of a second field. If a CR at the end of the PL command falls into this indeterminate area, the timing of the start of playback will be either as shown below or one frame before.



The PL command in External Sync mode is the only command to be executed in synchronization with the Vertical Sync signal.

7.1.6 PARALLEL CONTROL

1. External Switch Control

To control the player through the Serial Interface Connector, use a switching circuit with pins terminated to a +5 volts DC / internal 20,000 ohms resistor.

To activate a function, create a switch contact with an electrical ground (Pin 1). Check Chapter 2 to verify pin (Pin 6 through Pin 13) and terminal (SW1 ~ SW8) assignments.

2. Function Assignment

Each function of the external option switch is greatly classified into three.

1. Key which calls and executes group of bar code/command stack
- Stack group 1-27 of the function is key which executes command stack which registers (MEMORY key + ENTER) in the remote control key.

2. The one to do the same function as key to remote control unit.
(↑ ↓ → ← ENTER, PLAY, STOP, PAUSE, STEP FORWARD, STEP REVERSE, SCAN FORWARD, SCAREVERSE, SKIP FORWARD, SKIP REVERSE, DISPLAY, RECALL, MEMORY, REPEAT, REPEAT A-B, AUDIO, ANGLE, SUBTITLE, MENU, TOP MENU, SETUP, 0-9, >10, CLEAR RETURN, TITLE/CHP/FRM/TIME)
However, scan fwd/rev is different from a remote control, and the function of the scanning lock is not provided.

3. The one that key to remote control unit was extension

- Function key ↗ ↘ ↙ ↘ (movable of diagonal cursor at video Blackboard).
- 10-20 of function keys (When the menu is selected the search, figures up to 20 are specified directly).
- Open/close of function key.

Diode Assignment List

Function	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
	↑	↓	←	→	ENTER	X	Y	Z
↑	X							
↓		X						
←			X					
→				X				
ENTER					X			
STACK GROUP1						X		
STACK GROUP2							X	
STACK GROUP3								X
↗	X			X				
↘		X		X				
↙		X	X					
↘	X		X					
PLAY					X	X		
STOP					X		X	
PAUSE					X			X
STEP FORWARD					X	X	X	
STEP REVERSE					X	X		X
RETURN					X		X	X
OPEN/CLOSE	X	X						
DISPLAY			X	X				
SCAN FORWARD	X	X	X					
SCAN REVERSE	X	X		X				
SKIP FORWARD	X		X	X				
SKIP REVERSE		X	X	X				
1	X					X		
2		X				X		
3			X			X		
4				X		X		
5	X						X	
6		X					X	
7			X				X	
8				X			X	
9	X							X
10		X						X
11			X					X
12				X				X
13	X	X				X		
14	X		X			X		
15	X			X		X		

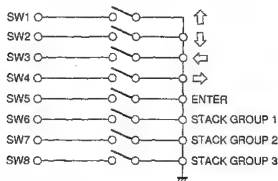
Function	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
	↑	↓	←	→	ENTER	X	Y	Z
16		X	X			X		
17		X		X		X		
18			X	X		X		
19	X					X	X	
20		X				X	X	
STACK GROUP4 *			X			X	X	
STACK GROUP5 *				X		X	X	
STACK GROUP6 *	X	X					X	
STACK GROUP7	X		X				X	
STACK GROUP8	X			X			X	
STACK GROUP9		X	X				X	
STACK GROUP10		X		X			X	
STACK GROUP11			X	X			X	
STACK GROUP12	X						X	X
STACK GROUP13		X					X	X
STACK GROUP14			X				X	X
STACK GROUP15				X			X	X
STACK GROUP16	X	X						X
STACK GROUP17	X		X					X
STACK GROUP18	X			X				X
STACK GROUP19		X	X					X
STACK GROUP20		X		X				X
STACK GROUP21			X	X				X
STACK GROUP22	X					X		X
STACK GROUP23		X				X		X
STACK GROUP24			X			X		X
STACK GROUP25				X		X		X
STACK GROUP26						X	X	
STACK GROUP27						X		X
TOP MENU *							X	X
MENU *						X	X	X
RECALL	X				X	X		
SETUP	X				X		X	
MEMORY	X				X			X
>10		X			X	X		
REPEAT		X			X		X	
REPEAT A-B		X			X			X
AUDIO			X		X	X		
ANGLE			X		X		X	
SUBTITLE			X		X			X
TITLE/CHP/FRM/TIME				X	X	X		
0				X	X		X	
CLEAR				X	X			X

DVD-V7400, DVD-V7300D

■ Controller

Examples of Switch and Diode specifications are charted below.

Simple Circuit



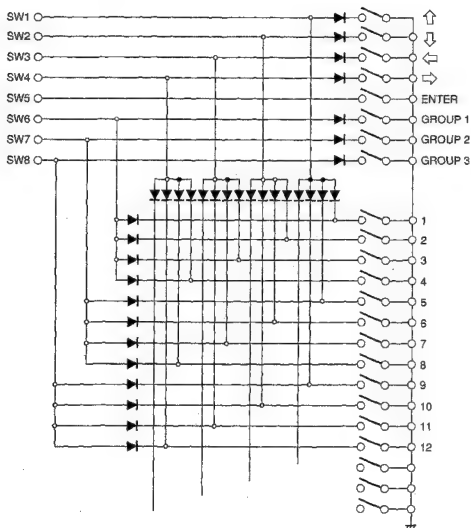
Switch Specifications

On Resistance	Less than 1 Ω
Off Resistance	More than 1 M Ω
Type	Non-Locking

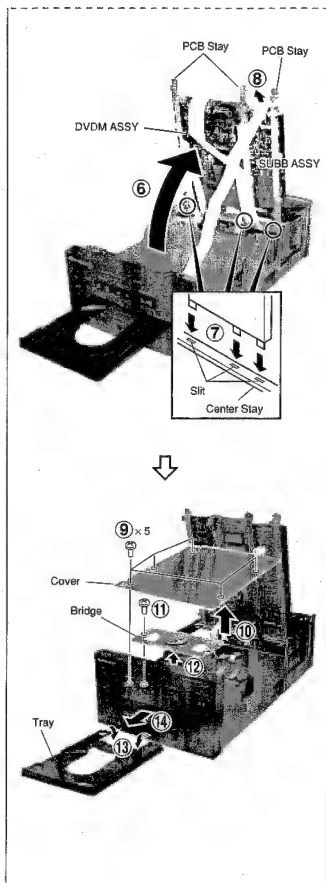
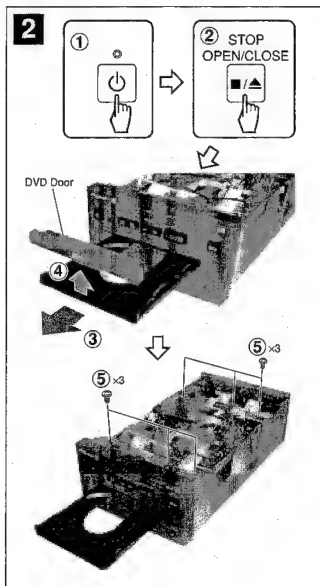
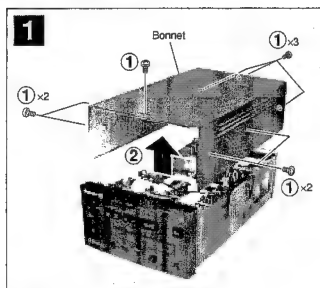
Diode Specifications

Forward Voltage Drop (VF)	Less than 0.7 (IF 1ma)
Surge Forward Current (IFSM)	Less than 100ma
Forward Current	Less than 10a

Diode Matrix Circuit



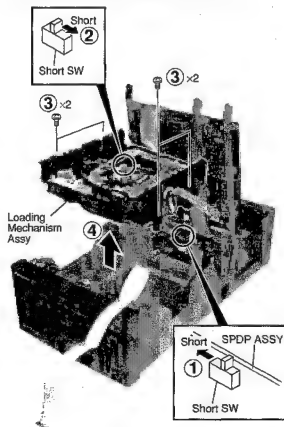
7.1.7 DISASSEMBLY



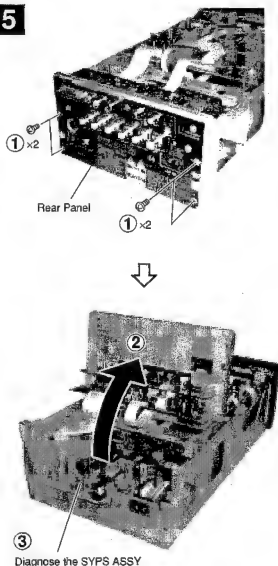
3

Notes when unit is exchanged.
Be short-circuited of Short SW before connected in mechanism cable is removed. The laser diode is protected from static electricity.

Please open Short SW before the player does power supply on when the repair of the unit exchange etc. is completed.
The player cannot reproduce when Short SW is short.

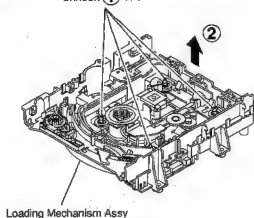


5



4 TRAVERSE MECHANISM ASSY-S

Unhook (1) x 4



7.2 PARTS

7.2.1 IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

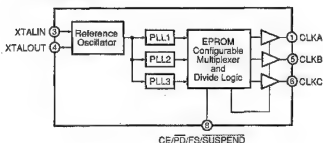
• List of IC

CY2081SL-655, PD3410A, DYW1662, M65773AFP

■ CY2081SL-655 (DVDM ASSY : IC21)

• Clock Generate IC

• Block Diagram



• Pin Function

No.	Pin Name	Pin Function
1	CLKA	Configurable clock output
2	GND	Ground
3	XTALIN	Reference crystal input of external reference clock input
4	XTALOUT	Reference crystal feedback
5	CLKB	Configurable clock output
6	CLKC	Configurable clock output
7	VDD	Voltage supply
8	OE/PD/FS/SUSPEND	Output control pin; either active-HIGH output enable, active-LOW power down, CLKA frequency select, or active-LOW suspend input

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■ PD3410A (DVD ASSY : IC601)

• System Control IC

• Pin Function

No.	Mark	Pin Name	I/O	Function
1	XCS3/XCASL	XCS3	O	PD4995A (MY CHIP) chip select signal output
2	GND	GND	-	GND
3	CK	HCPUCK	O	
4	VCC	V+3D	-	V+3D
5	PICLK	-	I/O	N.C.
6	PIDATA	-	I/O	N.C.
7	GND	GND	-	GND
8	PORTH0	XCSSP0	O	HC74VHCT595FT (Shift register with output latch)
9	PORTH1	33MVH	O	CY2071ASL-371 (Clock generator)
10	PORTH2	36MVH	O	BU2185F (Clock generator)
11	PORTH3	V_SEL2	O	Composite/S switching signal output of the skirt terminal
12	VCC	V+3D	-	V+3D
13	PORTH4	SCTAON	O	
14	PORTH5	27MVH	O	27MHz oscillation control circuit
15	PORTH6	XCSSPD	O	HC74VHCT595FT (Shift register with output latch)
16	PORTH7	XAUDRST/ VPOFF/ ECHO	O	YSS922 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder) Video system
17	GND	GND	-	GND
18	EXTAL	EXTAL	I	
19	XTAL	XTAL	O	Connect a ceramic resonator
20	VCC	V+3D	-	V+3D
21	PORTG0	XCSDFO	O	DAC chip select signal output
22	PORTG1	XCSDFI/ XCSDASP	O	YSS912 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder) AD1853 (3D audio processor) TC74VHC695FT (Serial/parallel) → SM5847AF (DAC for Mch) YSS922 (DASP)
23	PORTG2	XCSDFI/ DFRST1/ XMIC_ON	O	YSS912 (Dolby AC-3/Pro logic, audio DSP built-in DTS decoder) SM5847AF (DAC for Mch)
24	PORTG3	HIBSEL	O	PD00236AM
25	PORTG4	LFEON/ DFRST0	O	Buffer → Audio amp SM5847AF (DAC for Mch)
26	GND	GND	-	GND
27	PORTG5	6CHMD/ XMAOFF	O	Buffer → Front DAC selector
28	PORTG6	DTSMO/ XMRST/ XDASP	O	SW (Switch circuit)
29	PORTG7	XAMUTE/ XMUTM	O	Last stage mute signal output of the audio
30	PORTF0	44X48	O	DAC 44/48 FS switching signal output
31	PORTF1	DI_ERR/ XDIGIO	I	DIR1700 (Digital audio interface receiver)
32	PORTF2	3DON/ XMMUTE/ 48X44	O	3D audio ON/bypass switching signal output
33	VCC	V+3D	-	V+3D
34	PORTF3	XCSADSP0/ SYNC1	O	DSP56382 (Audio DSP)
35	PORTF4	XCSADSP1/ XAVS_RT/ DISC	O	DSP56382 (Audio DSP)
36	PORTF5	XCSADSP2/ DPOS/ODD	O	DSP56382 (Audio DSP)

No.	Mark	Pin Name	I/O	Function
37	PORTF6	XVQERST/ XANR	O	Analog NR ON/OFF switching signal output
38	PORTF7	XCSVE/ XCSVQE	O	Serial communication enable signal output of the video encoder
39	GND	GND	-	GND
40	AVSS	GND	-	GND
41	AVCC	V+3D	-	V+3D
42	OUTA_P	LODRV	O	Loading drive output
43	VREF	V+3D	-	V+3D
44	OUTB_P	TEI	O	Tracking offset signal output
45	AVSS	GND	-	GND
46	AVSS	GND	-	GND
47	PORTE0	V_SEL	O	Component/composite switching signal output
48	PORTE1	CDGM	I	PDC016A (Graphic IC)
49	PORTE2	OEM???	I	
50	PORTE3	FOFST1	I/O	Focus offset adjustment output 1
51	PORTE4	FOFST2	I/O	Focus offset adjustment output 2
52	PORTE5	XDFINH	I/O	Defect shunt signal output
53	PORTE6	DVD/XCD	O	DVD/CD switching signal output
54	PORTE7	LD1_ON	O	650 nm laser diode ON signal output
55	PORTD0	LD2_ON	O	780 nm laser diode ON signal output
56	VCC	V+3D	-	V+3D
57	PORTD1	DPD/TE	O	1 beam/3 beams switching signal output
58	PORTD2	AGOFF	O	AGC ON/OFF switching signal output of RF IC
59	PORTD3	XCD2X	O	Signal output for switching the double speed playback
60	PORTD4	OEICG	O	OEIC gain switching signal output
61	GND	GND	-	GND
62	PORTD5	XMON	O	Control output ON/OFF switching output of the spindle motor
63	PORTD6	XBCA	O	
64	PORTD7	OPEN_SW/ X???RST	I	Mechanism connector
65	PORTJ0	XDRVMUT	O	Driver mute output
66	PORTJ1	DR/XLD	O	TC7W53F (Analog SW)
67	PORTJ2	XDSPRST	O	LC78652W (Servo DSP)
68	PORTJ3	MNJACK/ MC_MO	I	Mini jack connection check pin
69	VCC	V+3D	-	V+3D
70	PORTJ4	TM_ENT	I	Test mode input
71	PORTJ5	XEXPE	O	TC74VHC7574F/FS (3-state buffer)
72	PORTJ6	VSEL_SW	I	Component/composite SW input
73	PORTJ7	DQSY	I	
74	PB0/TIOCA2	XCBUSY	I	Command busy input
75	PB1/TIOCB2	XABUSY	I	Auto-sequence busy input
76	PB2/TIOCA3	XINT2/ XAV/RQ2	I	Interrupt input 2 (AV-1)
77	VCC	V+3D	-	V+3D
78	PB3/TIOCB3	LT1	O	Communication response signal output to the FL controller
79	PB4/TIOCA4	SBSY	I	Subcode block sync. input
80	XMTST	-	I	V+3D
81	XCPUMD	-	I	V+3D
82	XRES	XRESET	I	Reset input

DVD-V7400, DVD-V7300D

No.	Mark	Pin Name	I/O	Function
83	GND	GND	—	GND
84	AN0	LODPOS	I	Loading position input
85	AN1	SLDPOS	I	Slider position input
86	AN2	DOORSW	I	Mecha. connector
87	AN3	NAP_SW	I	NTSC/AUTO/PAL SW input
88	AN4		I	
89	AN5		I	
90	AN6		I	
91	AN7	525IP_SW	I	
92	AVref	V+3D	—	V+3D
93	AVCC	V+3D	—	V+3D
94	AVSS	GND	—	GND
95	PB5/TIOCB4	DIBLK/HFL/ DCNT2	I	DIR1700 (Digital audio interface receiver) LC78652W (Servo DSP)
96	PB6/TIOCA4/TCLKC	C2F	I	C2 error input
97	PB7/TIOCB4/TCLKD	XRDY	I	Communicatio request input from the FL controller
98	PB8/RxD0	SSI	I	Serial data input (FL controller)
99	PB9/TxD0	SSO	O	Serial data output (FL controller, DAC)
100	VCC	V+3D	—	V+3D
101	PB10/RxD1	RXD	I	Data input of the RS-232C
102	PB11/TxD1	TXD	O	Data output of the RS-232C
103	PB12/XIRQ4/SCK0	SSCK	I/O	Serial clock output (FL controller, DAC)
104	PB13/XIRQ5/SCK1	XIRQ10	I	Interrupt input 1 (MY CHIP)
105	GND	GND	—	GND
106	PB14/XIRQ6	XIRQ11	I	Interrupt input 2 (MY CHIP)
107	PB15/XIRQ7	XINT0/ XAVIRQ0	I	Interrupt input 0 (AV-1)
108	PA0/XCS4/TIOCA0	XCS4	O	Servo DSP chip select signal output
109	PA1/XCS5/XRAS	N.C.	O	Non connection
110	PA2/XCS6/TIOCB0	XCS6	O	AV-1 chip select signal output
111	XWAIT	XWAIT	I	Wait signal input
112	XWRL	XWRL	O	Write pulse output L
113	GND	GND	—	GND
114	XWRH	XWRH	O	Write pulse output H
115	XRD	XRD	O	Read pulse output
116	PA7/XBACK	XCURDET	I	Over-current detection signal input
117	PA8/XBREQ	CTS	I	RS-232C transfer permit input
118	PA9/XAH/XIRQOUT/ XADTRG	DTR	O	RS-232C transfer permit output
119	PA10/DPL/TIOCA1	XAVIRQ1/ XINT1	I	Interrupt input 1 (AV-1)
120	PA11/DPH/TIOCB1	THLD	I	Tracking hold signal input
121	VCC	V+3D	—	V+3D
122	PA12/XIRQ0/DACK0/ TCLKA	DACK0	O	DMA response output (MY CHIP)
123	PA13/XIRQ1/ XDREQ0/TCLKB	XDREQ0	I	DMA request input (MY CHIP)
124	PA14/XIRQ2/XDACK1	XDACK1	O	DMA response output (AV-1)
125	PA15/XIRQ3/XDREQ1	XDREQ1	I	DMA request input (AV-1)
126	AD0	D0	I/O	Data bus 0

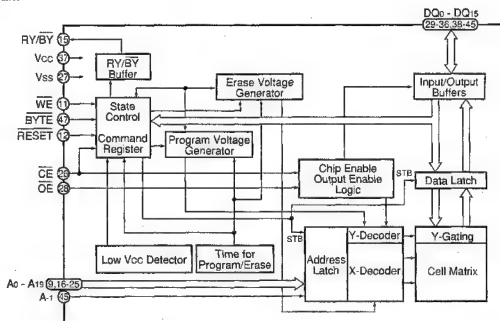
No.	Mark	Pin Name	I/O	Function
127	GND	GND	–	GND
128	AD1	D1	I/O	Data bus 1
129	AD2	D2	I/O	Data bus 2
130	AD3	D3	I/O	Data bus 3
131	AD4	D4	I/O	Data bus 4
132	AD5	D5	I/O	Data bus 5
133	AD6	D6	I/O	Data bus 6
134	VCC	V+3D	–	V+3D
135	AD7	D7	I/O	Data bus 7
136	AD8	D8	I/O	Data bus 8
137	AD9	D9	I/O	Data bus 9
138	AD10	D10	I/O	Data bus 10
139	GND	GND	–	GND
140	AD11	D11	I/O	Data bus 11
141	AD12	D12	I/O	Data bus 12
142	AD13	D13	I/O	Data bus 13
143	AD14	D14	I/O	Data bus 14
144	VCC	V+3D	–	V+3D
145	AD15	D15	I/O	Data bus 15
146	A0 (XHBS)	A0	O	Address bus 0
147	A1	A1	O	Address bus 1
148	A2	A2	O	Address bus 2
149	GND	GND	–	GND
150	A3	A3	O	Address bus 3
151	A4	A4	O	Address bus 4
152	A5	A5	O	Address bus 5
153	A6	A6	O	Address bus 6
154	A7	A7	O	Address bus 7
155	A8	A8	O	Address bus 8
156	A9	A9	O	Address bus 9
157	A10	A10	O	Address bus 10
158	A11	A11	O	Address bus 11
159	A12	A12	O	Address bus 12
160	A13	A13	O	Address bus 13
161	A14	A14	O	Address bus 14
162	A15	A15	O	Address bus 15
163	A16	A16	O	Address bus 16
164	A17	A17	O	Address bus 17
165	VCC	V+3D	–	V+3D
166	A18	A18	O	Address bus 18
167	A19	A19	O	Address bus 19
168	A20	A20	O	Address bus 20
169	A21	A21	O	N.C.
170	XNMI	XNMI	I	V+3D
171	GND	GND	–	GND
172	XCS10	XCS10	O	VHCT574F/FS (3-state buffer)
173	XCS20	XCS20	O	Chip select signal output of the flash ROM
174	XCS22	XCS22	O	(GLI ROM)
175	XCS23	XCS23	O	Chip select signal output of the SRAM
176	XCS2		O	N.C.

DVD-V7400, DVD-V7300D

■ DYW1662 (DVDM ASSY : IC603)

• 16M bit Flash Memory IC

● Block Diagram



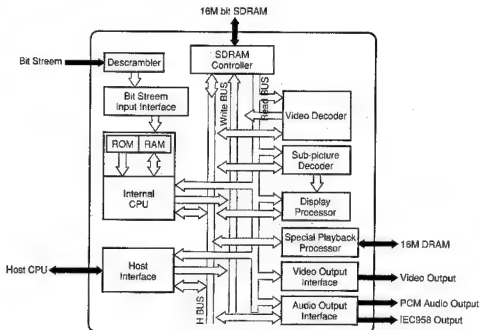
● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	A15	I	Address inputs	25	A0	I	Address input
2	A14	I		26	CE	I	Chip enable
3	A13	I		27	VSS	-	Ground
4	A12	I		28	OE	I	Output enable
5	A11	I		29	DQ0	I/O	Data inputs/outputs
6	A10	I		30	DQ8		
7	A9	I		31	DQ1		
8	A8	I		32	DQ9		
9	A19	I		33	DQ2		
10	N.C.	-	Non connection	34	DQ10		
11	WE	I	Write enable	35	DQ3		
12	RESET	I	Hardware reset pin/Temporary sector unprotection	36	DQ11		
13	N.C.	-	Non connection	37	VCC	-	Power supply
14	N.C.	-	Non connection	38	DQ4	I/O	Data inputs/outputs
15	RY/BY	O	Ready/Busy output	39	DQ12		
16	A18	I	Address inputs	40	DQ5		
17	A17	I		41	DQ13		
18	A7	I		42	DQ6		
19	A6	I		43	DQ14		
20	A5	I		44	DQ7		
21	A4	I		45	DQ15/A-1	I/O	Data inputs/outputs / Address input
22	A3	I		46	VSS	-	Ground
23	A2	I		47	BYTE	I	Selects 8-bit or 16-bit mode
24	A1	I		48	A16	I	Address input

■ M65773AFP (DVDM ASSY : IC801)

• MPEG2 Decoder IC

• Block Diagram



• Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	GND	I	Ground	21	5VDD	I	5V power supply
2	HD0	I/O	Data input and output port	22	HD15	I/O	Data input and output port
3	HD1			23	CS	I	Chip select signal input
4	HD2			24	RE	I	Read Enable signal input
5	HD3			25	WE	I	Write Enable signal input
6	HD4			26	BHE	I	Byte High Enable signal input
7	5VDD	I	5V power supply	27	RDY	O	Acknowledge signal which is indicated the finish of data reading or writing via the host bus
8	VDD	I	Power supply	28	INTR	O	Interrupt request signal against to the external CPU from M65773FP
9	HD5	I/O	Data input and output port	29	GND	I	Ground
10	HD6			30	HA0	I	Address input port
11	HD7			31	HA1		
12	HD8			32	HA2		
13	HD9			33	HA3		
14	GND	I	Ground	34	HA4		
15	HD10	I/O	Data input and output port	35	VDD	I	Power supply
16	HD11			36	5VDD	I	5V power supply
17	HD12			37	HA5	I	Address input port
18	HD13			38	HA6		
19	HD14			39	HA7		
20	VDD	I	Power supply	40	HA8		

DVD-V7400, DVD-V7300D

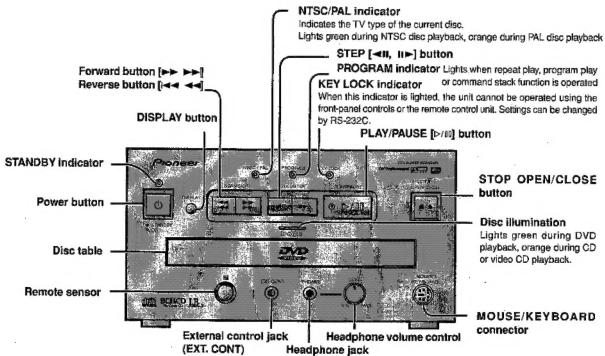
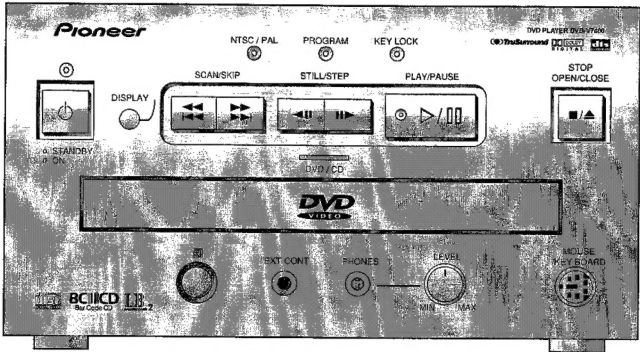
No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
41	HA9	I	Address input port	83	VDD	I	Power supply
42	GND	I	Ground	84	VSYN	O	Vertical sync. signal output
43	CDMCK	I	Connect to ground	85	HSYN	O	Horizontal sync. signal output
44	CDLRCK	I	L/R clock input from CDDSP	86	PICSTR		
45	CDBCK	I	PCM bit clock input from CDDSP	87	MBSTR		
46	CDDATA	I	Digital audio interface input	88	MBDATA		
47	VDD	I	Power supply	89	GND	I	Ground
48	CDDIN	I	PCM audio data input from CDDSP	90	PWD	O	Phase comparator output for external sync. operation
49	INT2	O	Interrupt request signal against to the external CPU from M65773FP	91	CSYN	I	Composite SYNC signal input
50	INT3			92	OSDKEY	O	OSD key flag output
51	DREQ	O	DMA request signal for OSD bitmap transfer	93	PXCLK	O	Pixel clock (27MHz free-running clock)
52	DACK	I	DMA acknowledge signal for OSD bitmap transfer	94	VDD	I	Power supply
53	GND	I	Ground	95	PD7		
54	CLKO	O	27MHz clock output	96	PD6	O	Digital pixel data
55	CLKIN	I	System clock input	97	PD5		
56	AVDD1	I	Analog power supply	98	PD4		
57	AGND1			99	GND	I	Ground
58	AGND3	I	Analog ground	100	PD3		
59	AVDD3	I	Analog power supply	101	PD2	O	Digital pixel data
60	CCAP	I	Connect to ground	102	PD1		
61	AGND2	I	Analog ground	103	PD0		
62	AVDD2	I	Analog power supply	104	VDD	I	Power supply
63	ACLKO	-	Open	105	GND	I	Ground
64	ACLKI	I	Audio clock input	106	RESET	I	Hardware reset input
65	HMODE1	I	Setting pin of host interface operating mode	107	TEST0		
66	GND	I	Ground	108	TEST1	I	Connect to ground normally
67	VDD	I	Power supply	109	TEST2		
68	AOD			110	VDD	I	Power supply
69	AO2	O	PCM output of audio data	111	NMD0		
70	AO1			112	NMD15	I/O	Data transfer line with DRAM
71	AO0			113	NMD1		
72	GND	I	Ground	114	NMD14		
73	DOU1	O	Digital audio interface output	115	GND	I	Ground
74	DOU0			116	NMD2		
75	SDA	-	Open	117	NMD13	I/O	Data transfer line with DRAM
76	SCL	-	Open	118	NMD3		
77	VDD	I	Power supply	119	NMD12		
78	GND	I	Ground	120	VDD	I	Power supply
79	DACCLK	O	Over-sampling operating clock output	121	NMD4		
80	DOCLK	O	PCM bit clock output	122	NMD11		
81	LRCLK	O	Clock output for discriminating the channel (L/R) of PCM audio data	123	NMD5	I/O	Data transfer line with DRAM
82	HMODE0	I	Setting pin of host interface operating mode	124	NMD10		

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
125	GND	I	Ground	167	MA5	O	Address line with SDRAM
126	NMD6	I/O	Data transfer line with DRAM	168	GND	I	Ground
127	NMD9			169	MA1	O	Address line with SDRAM
128	NMD7			170	MA6		
129	NMD8			171	MA0		
130	VDD	I	Power supply	172	MA7		
131	NCAS0	O	CAS (Column Address Strobe) control line of DRAM	173	VDD	I	Power supply
132	NWE	O	WE control line of DRAM	174	MA10	O	Address line with SDRAM
133	NCAS1	O	CAS (Column Address Strobe) control line of DRAM	175	MA8		
134	NRAS	O	RAS (Row Address Strobe) control line of DRAM	176	MA11		
135	GND	I	Ground	177	MA9		
136	NMA9	O	Address line with DRAM	178	GND	I	Ground
137	NMA8			179	DCS	O	Chip select of SDRAM
138	VDD	I	Power supply	180	RAS	O	RAS (Row Address Strobe) control line of SDRAM
139	NMA0	O	Address line with DRAM	181	CAS	O	CAS (Column Address Strobe) control line of SDRAM
140	NMA7			182	VDD	I	Power supply
141	NMA1			183	MCLK	O	Operation clock of SDRAM
142	NMA6			184	GND	I	Ground
143	GND	I	Ground	185	DWE	O	WE control line of SDRAM
144	NMA2	O	Address line with DRAM	186	DQMU	O	DQM control line of SDRAM Use for mask of upper byte output.
145	NMA5			187	DQML	O	DQM control line of SDRAM Use for mask of lower byte output.
146	NMA3			188	VDD	I	Power supply
147	NMA4			189	MD7	I/O	Data transfer line with SDRAM
148	VDD	I	Power supply	190	MD8		
149	BD7	I	Bit stream input port	191	MD6		
150	BD6			192	MD9		
151	GND	I	Ground	193	GND	I	Ground
152	BD5	I	Bit stream input port	194	MD5	I/O	Data transfer line with SDRAM
153	BD4			195	MD10		
154	BD3			196	MD4		
155	BD2			197	MD11		
156	VDD	I	Power supply	198	VDD	I	Power supply
157	GND	I	Ground	199	MD3	I/O	Data transfer line with SDRAM
158	BD1	I	Bit stream input port	200	MD12		
159	BD0			201	MD2		
160	BCLK	I	Strobe signal (clock) of BD port	202	MD13		
161	BDEn	I	Indicates the effective or invalid data which is sampled from BD port	203	GND	I	Ground
162	BDREQ	O	Output permission signal against to the device (channel decoder) which connecting to BD port	204	MD1	I/O	Data transfer line with SDRAM
163	VDD	I	Power supply	205	MD14		
164	MA3	O	Address line with SDRAM	206	MD0		
165	MA4			207	MD15		
166	MA2			208	VDD	I	Power supply

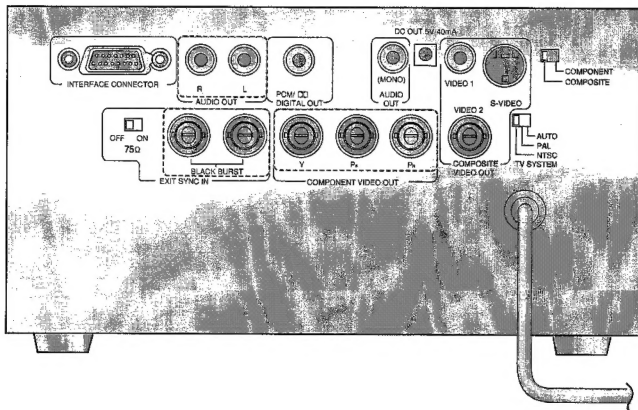
8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACILITIES (FOR DVD-V7400/KU/CA)

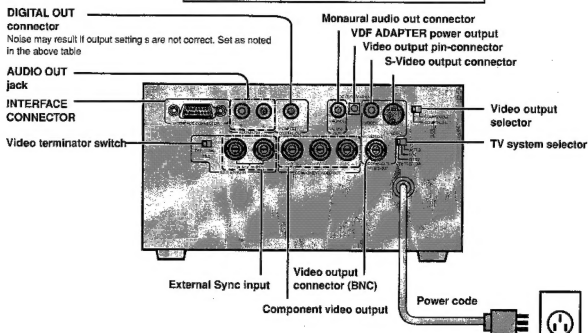
■ Front Panel



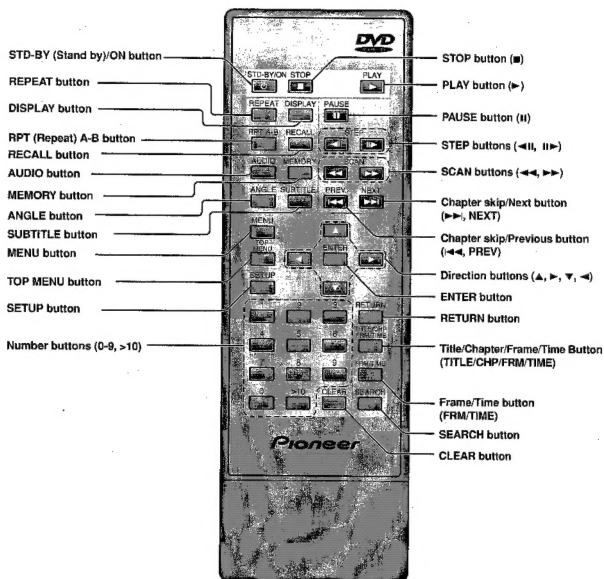
Rear Panel



Your amp	Settings
Regular AV amp	Select [Dolby Digital ► PCM] from the SETUP MENU.
Dolby Digital compatible amp	Select [Dolby Digital] from the SETUP MENU.



■ REMOTO CONTROL UNIT



8.2 SPECIFICATIONS

■ SPECIFICATIONS (FOR DVD-V7400/KU/CA)

General

System	DVD system, Compact Disc digital video and Compact Disc digital audio system
Power requirements	AC 120 V, 50/60 Hz
Power consumption	16 W
Power consumption in standby mode	0.5 W
Weight	4.7 kg (10.6 lb)
Dimensions	210 (W) x 408 (D) x 119 (H) mm (8 1/4 x 16 1/8 x 4 1/16 in.) (Not including protruding cables, etc.)
Operating temperature	+5°C to +35°C (+41°F to +95°F)
Operating humidity	No more than 85% (no condensation)

Video Output

Output level	1 Vp-p
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(75Ω when loaded, synchronous negative)

Jacks	BNC, RCA
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S-Video Output

Y (luminance) - Output level	1 Vp-p (75Ω)
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C (color) - Output level	286 mVp-p (75Ω)
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Component video Output

Y - Output level	1 Vp-p (75Ω) BNC
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P _B - Output level	0.7 Vp-p (75Ω) BNC
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P _R - Output level	0.7 Vp-p (75Ω) BNC
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S/N ratio	more than 60 dB
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Horizontal resolution	more than 500
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External synchronizing input

Input signal level	Black burst
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0.3 Vp-p (75Ω) BNC x 2 (loop through)

Audio Output

Output level	200 mVrms (1 kHz, -20 dB)
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During audio output	2
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Number of channels	2
--------------------------	---

Frequency response	4 Hz to 22 kHz (DVD fs: 48 kHz)
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.....	4 Hz to 20 kHz (CD)
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S/N ratio	115 dB (EIAJ)
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Dynamic range	98 dB (EIAJ)
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Wow and flutter	±0.001% W. PEAK or lower (EIAJ)
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Other Terminals

Coaxial digital output (PCM/ DD)	RCA jack
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Communication interface (RS-232C)	D-SUB, 15-pin
---	---------------

Accessories

Audio cord	1
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Video cord	1
------------------	---

Remote control unit	1
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AA (R6P) dry cell batteries	2
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Laser barcode Sheet	1
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RF adaptor set clamp	1
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Screw	1
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Operating Instructions	1
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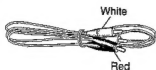
Warranty card	1
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NOTES:

- All values listed in these specifications are standard values.
- The specifications and design of this product are subject to change without notice, due to improvement.

■ Accessories

Audio cord (L=1.5m)
(VDE1033)



Video cord (L=1.5m)
(VDE1048)



AA/R6P batteries
(VEM-013)



Operating instructions
Warranty card

Remote control unit
(CU-V162): DXX2448

